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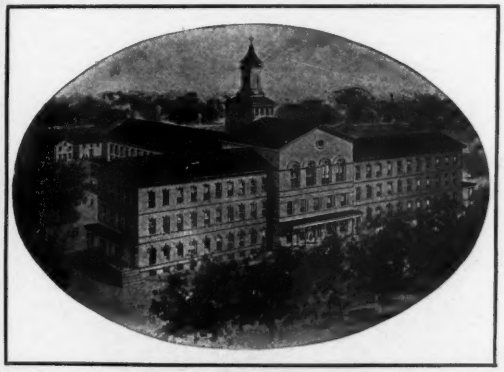

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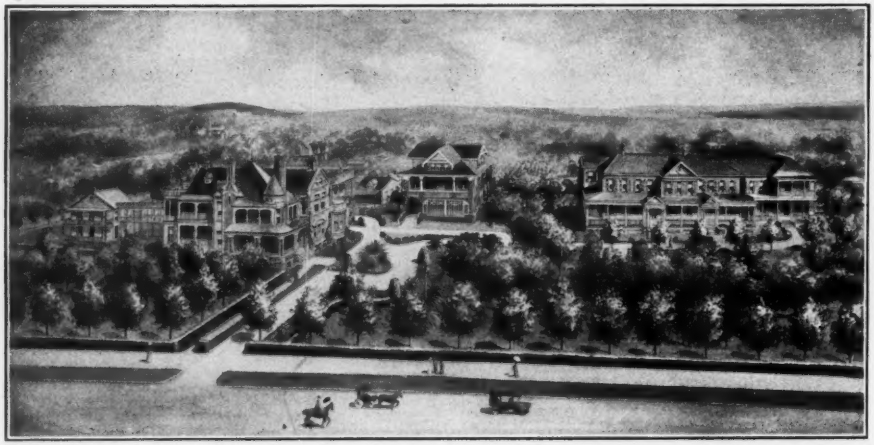

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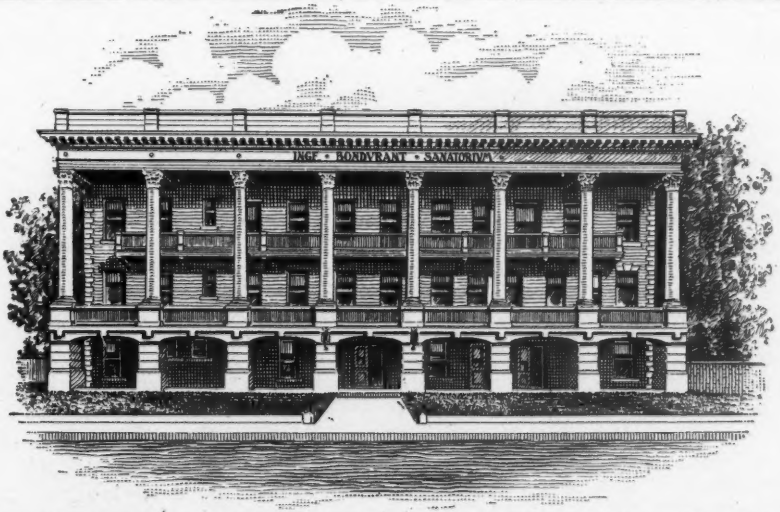

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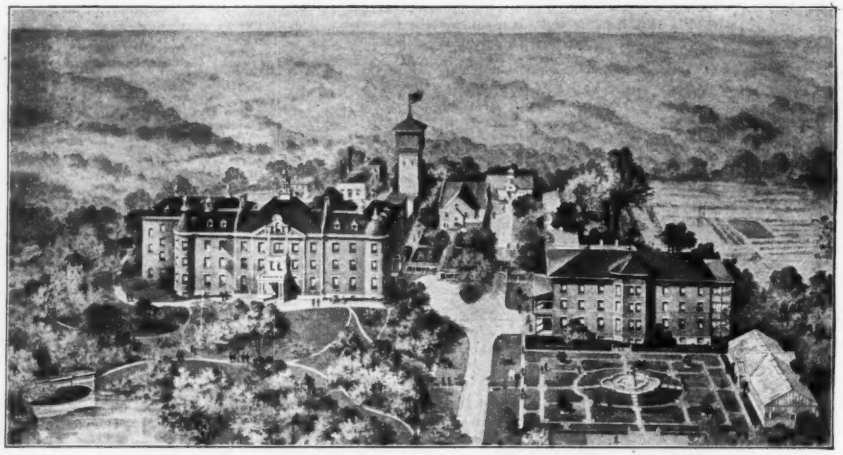

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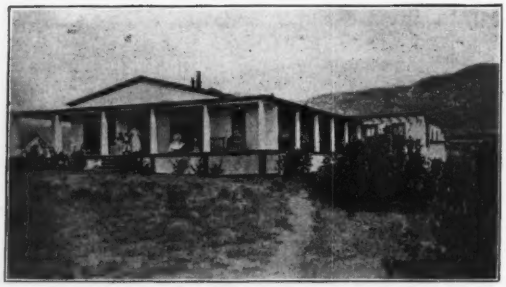

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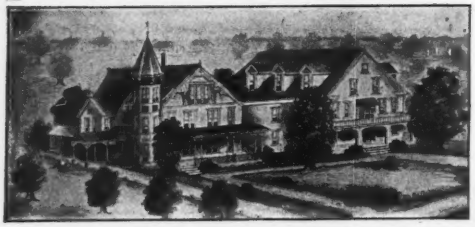

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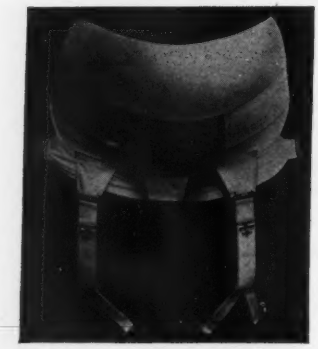

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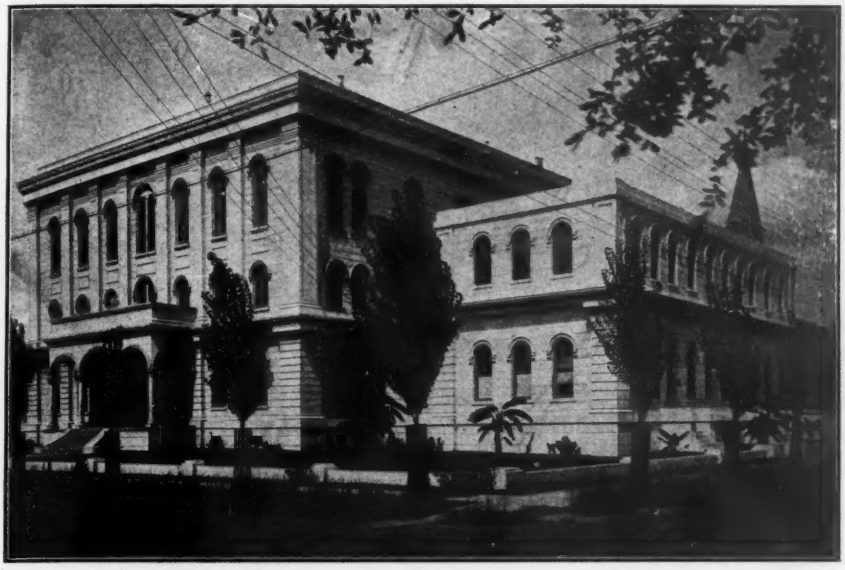

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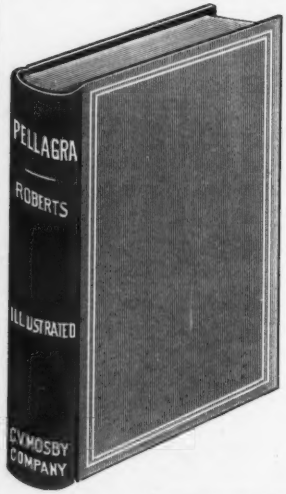

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SOUTHERN MEDICAL JOURNAL

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ORIGINAL ARTICLES

OBSERVATIONS ON THE TREATMENT OF SIMPLE FRACTURES.*

CHAIRMAN'S ADDRESS, SECTION ON SURGERY.

By DUNCAN EVE, M.D.,

Nashville, Tenn.

Owing to the constantly increasing use of machinery, the greater devotion to sports, roller-skating, automobiling, etc., fractures are becoming more common; therefore it is expected better results than formerly should be obtained.

Within the last few years a considerable impulse has been given the operative treatment of simple fractures. Mr. W. Arbuthnot Lane, of London, has brought this matter very prominently before the profession, and the question today is one, as to whether we should treat fractures by the accustomed and conservative plans, or by operative methods. For this reason there is an unrest in opinions formed, pending the final settlement of this all-important subject.

There is no doubt but what some simple fractures are difficult to manage, and that some results are not altogether what we would like. But shall we set aside well-established principles of treatment (often called old methods contemptuously), and resort to operations in all simple fractures? Most emphatically, No.

That the operative or open plan in a few cases of simple fractures is not only indicated, but is the best treatment, there can be no doubt, for among its advocates are surgeons of wide experience, sound judgment and great skill; yet to attempt as a general or universal measure to make all simple fractures compound ones, by the open or operative plan, is an advance experience is not ready to demand —nor are we willing to agree with so good and distinguished a surgeon as Dr. Robert F. Weir, who stated that if he had his patella fractured, he would be content to have it treated like King Edward, and not have his knee-joint opened and the fracture sewn up; but, on the other hand, would insist on an open operation, and thus obtain the best, quickest and firmest union possible.

The operative method should be resorted to whenever we are unable to obtain satisfactory results by non-operative measures.

We do obtain satisfactory results in most simple fractures by the time-honored, conservative method of reduction and replacement, aided by proper extension and immobilization with splints, as there is often no deformity or shortening, and, if a bone of an extremity, the limb is absolutely useful and serviceable. Suppose slight deformity or shortening did occur, the loss of limb is never to be expected, and loss of life is practically out of the question. Can this always be said of the operative plan? No, not even in the hands of the most skilled, for records occasionally show unfortunate results. If surgeons who are unable to obtain good results by the non-operative treatment of most frac-

*Read before the Southern Medical Association, at its fifth annual session, Hattiesburg, Miss., November 14-16, 1911.

tures would undertake to treat them by operative methods, the results, to suggest the least, would be most lamentable.

In fractures the rapidity and completeness of the cure are proportionate to the accuracy of reduction and retention of the fragments.

The surgeon must be careful to have fractures X-rayed in planes crossing each other at right angles, so that no displacement of fragments may escape his observation. The introduction of the X-ray as an aid, not only to diagnosis, but also to treatment, has raised the standard of requirements perhaps unnecessarily high. Important as is the X-ray in fractures, it is, as is well known, employed too often for dishonest purposes. The average juror is not capable of interpreting an X-ray plate. The fact is, it is possible that the overwhelming majority of the profession is also incompetent, as it requires a skill only to be learned by hard study and experience. It is perfectly proper that X-ray plates should be introduced in court; but the interpretation thereof as evidence should be left solely to the skilled surgeon. Many have reasons to know the annoyance that comes from a malpractice suit, and the Roentgen ray is adding to our troubles, because, while many cases are functionally perfect, they are not anatomically so; and a jury is readily influenced. The Roentgenogram is only a shadow and not the thing itself.

How many surgeons in private practice resort to the open method universally in the treatment of simple fractures? I don't know of one in this country. Then why is it we hear so much on this subject? Is it because of the attempt to be modern? I don't want to think so. The truth of the matter is, surgeons have had very little experience in the operative treatment of simple fractures other than those of the patella and the olecranon process of the ulna. This is true even to some extent in hospital practice. *The reason is, that it is the exception rather than the rule that patients will agree to the operative plan of treatment.* Not long since I heard a surgeon read before a medical body a very excellent article on the open plan of treatment of simple fractures; in the discussion that followed the author was asked how many simple fractures he had treated by the operative plan, and to the surprise of those present he acknoweldged he had not operated on a single case.

Dr. A. F. Jonas, of Omaha, Neb., chief surgeon of the Union Pacific Railroad, read a very interesting paper before the Surgical Section of the American Medical Association at St. Louis, Mo., 1910, from which I quote the following:

"When we consider the extreme difficulty, and, in many cases, the absolute impossibility of effecting an accurate adjustment of fractured bones by manipulation, and the uncertainty of fixing and maintaining the broken ends in perfect alignment, it would seem that we must instantly and unhesitatingly decide in favor of the open treatment and the employment of such mechanical devices as will positively hold in perfect position any fractured bone. That this is the ideal method is beyond dispute. All are agreed that while this method is ideal, it also becomes necessary that the work be done under ideal conditions, which means a perfect control of asepsis, and unusual mechanical and operative skill on the part of the surgeon. Any lapse in aseptic detail is more fatal to perfect union and perfect final results than a similar error in technique in abdominal surgery, for here the lymphatics are less able to cope with ordinary infections than in the peritoneal cavity. In no other domain of surgery are errors in asepsis so often punished by failures. To accomplish these results, trained assistants and a faultless operating equipment are essential."

In the very next paragraph this same authority states:

"It at once becomes evident that it is necessary to divide our simple fracture cases requiring treatment into two groups: First, those that can be treated in a hospital, which

comprise a small group; second, those that must be treated outside the hosiptal, and comprises by far the larger group.

"The greater number of fractures always have been and always will be treated by the general practitioner. His functional results are usually good, and satisfactory to the patient, even though a skiagram would show imperfect alignment and defective adjustment. Consequently, the surgeon can never hope to attain an exclusive control of the management of fractures, and the open treatment can never become the universal treatment.

Now, would it be desirable to do an open operation in all simple fractures? This we must answer in the negative, because many of them can be accurately and perfectly adjusted by manipulation and accurately held in place by proper retentive dressings. Many transverse fractures of the tibia, and supracondyloid fractures of the femur, show very little tendency to displacement when once properly reduced, and the extremity secured in a well fitting plaster-of-Paris cast. Therefore the most enterprising surgeon would hardly find justification for a statement that all simple fractures must be exposed by a free incision and the broken bones secured by suture or a mechanical device. Those of us who had an opportunity of examining Arbuthnot Lane's numerous skiagrams of simple fractures, on which operation had recently been done, which he exhibited before us a year ago, could not help but be impressed with the fact that some of his cases would have done quite as well if the fractures had been reduced by manipulation, and the use of the same external splints that he employed to reinforce the clips and screws which he used through an incision. Experience has shown that with the open operation the external retentive and fixation appliances must be of the same design, and must be applied with the same care as in cases where no open incision is made."

"At best, fixation appliances used to secure accurate adjustment in the open incision can be depended on only for a few days, because the bony structure immediately surrounding a screw or peg or wire introduced in the bone becomes loose and fails to hold in accurate apposition bone fragments unless aided by a carefully applied external splint."

From more than ordinary experience, we express the belief, that in simple fractures of the patella, olecranon and other bones, in which reduction and retention are impossible, the weight of opinion is in favor of the open or operative plan.[4] In the shaft of the humerus it is true we have more delayed, or non-union, than any other bone, yet the causes that produce the ununited fractures can nearly always be prevented, so that the prognosis is good. From experience with various plans of immobilization, I must confess, the internal right-angle splint, with or without the shoulder-cap, depending on whether the location of the fracture is high or low, is the ideal support and plan of treatment. Hamilton taught, that in the fractures of the humerus, "the elbow soon became fixed, and that any movement of the forearm moves the seat of fracture and not the elbow." In the use of an internal-angular splint the forearm as well as the fracture is immobilized.

As to fractures in the upper third of the shaft of the femur, it is universally acknowledged that treatment by external appliances is usually unsatisfactory, and the results show great permanent shortening from angular union or overlapping. Treatment in the extended position fails to correct the displacement of the upper fragment, and the double-inclined plane will not accomplish full control of this upper fragment, but following the advice of Agnew, in the use of this double-inclined plane, extension in the axis of the partially flexed thigh, no doubt accomplishes the best non-operative results that can be obtained. Brown's modification of Hodgen's apparatus is quite satisfactory for fractures in the lower two-thirds of the bone. In all fractures of the upper third of the femur, the dis-

placement should be determined by the X-ray, and when it is found that no form of apparatus will maintain reduction it is advisable to incise, and fixate the ends of the fragments by Kangaroo-tendon, or the use of the largest sized chromicized catgut. I don't like metallic fixative materials where they can be possibly avoided. Then, in some simple fractures of the upper-third of the shaft of the femur, and even in very oblique fractures of the shaft of the tibia, in healthy patients of suitable age, the indications are for the open plan of treatment, but we can see no reason why it is necessary to wire or otherwise fixate by open methods the inferior maxillary, clavicle, ribs, radius, especially lower end (Colles' fracture); fibula, especially lower end (Pott's fracture), or the vast majority of bones.

Let us indulge the hope that the day is not far distant when surgeons will agree on the treatment of this all-important subject, constituting, as it does, one-seventh of all injuries.

DISCUSSION.

Dr. Gessner.—We owe Dr. Eve thanks for his valuable paper. I wish to endorse his objection to the use of the open plan of treatment of simple fracture, when that can be dispensed with. Further, I wish to object to the use of metal plate, wire or staples as a routine procedure in those cases which do require operative treatment.

I recently had referred to me a patient who had a fracture of both bones of the forearm. A skiagraph taken after attempted reduction under anæsthesia showed that there was considerable overlapping of both fractured bones. Under ether I exposed the points of fracture and separated the periosteum. In the radial fracture I found interposition of muscle between the two fragments. With difficulty I was able to lever the two ends together on each side. Then the question arose how we should keep the two fragments of each bone together. I concluded to close the wound without using any metallic support, and did so close them. We operated on Monday and applied palmar and dorsal splints. On Thursday we had a skiagraph taken which showed excellent apposition without any overlapping. Now, three months later, there is splendid union with a very good functional result. The result could not have been made better by the use of metallic supports. On the other hand, such supports frequently cause much disturbance. I recently had occasion to observe a woman who had union of the femur with angular deformity plus considerable overlapping. The fragments were chiselled apart and a large Lane plate was screwed into position. She got union, but had quite an osteomyelitis from the screws, and about three months ago I had to gutter her femur. She has spent the greater part of a year in the hospital. I believe the principal advantage of operating on fractures is the opportunity of removing interposed tissue. That is abundantly proven in fracture of the patella, which we treat with capsulo-periosteal suture, without a screw, without a wire, without plates. That is our routine treatment now, and the results are good. I believe they are mainly attributable to the removal of the soft tissues interposed between the fragments, though in this particular fracture prevention of separation of the fragments is also of considerable importance.

THE IMPORTANCE OF PROPER SHOES. THEIR RELATION TO DEFORMITIES OF THE FOOT AND BODY EFFICIENCY.*

By E. LAWRENCE SCOTT, M.D.,
Orthopedic Surgeon to St. Vincent's and Hillman Hospital; Lecturer Orthopedic Surgery, Birmingham Medical College.
Birmingham, Ala.

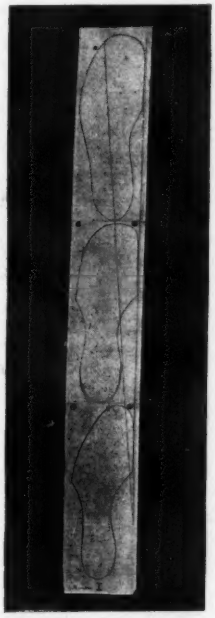
In choosing the subject, "The Importance of Proper Shoes; Their Relation to Deformities of the Foot, and Body Efficiency," it is my desire to simply call your attention to a much neglected question. In our scientific progress we are prone to lay aside the common things in our activity and interest in the less common; so I am sure we have all been guilty in the past of leaving the question of the fitness of our shoes to our seemingly good friend, the shoemaker, represented in turn by his salesman.

It is rather striking that we are so careful in having proper lenses fitted to our eyes, and

*Read before the Section on Surgery of the Southern Medical Association, Hattiesburg, Miss., November 14-16, 1911.

so inquiring about the proficiency of our dentist, and at the same time leave the important matter of a proper shoe to such an obviously incompetent anatomist as the shoemaker. Have we ever stopped to consider how greatly our general efficiency would be hindered by permanent disability of our feet? Surely then our daily efficiency must depend in a degree on the character and the fitness of our shoe.

The relation of the shoe to the all-important question of poise and balance is a close one,



Top—Proper last shoe.
Middle—Imitation last shoe.
Lower—Ordinary last shoe.

and it is difficult, in fact almost impossible to consider one and not the other. We must never lose sight of the fact that poise, proper posture, depends greatly on a proper base or foundation, and in this we find definite mechanical laws that cannot be constantly violated without giving an effect. It will be presumed that the average shoe worn is not a proper one, and try and confine the subject matter to positive effects produced.

To quote Whiteman of New York, "the function of the foot is two-fold—to serve as a passive support of the weight of the body, and as an active lever to raise and propel it. For the proper performance of these functions it is constructed to permit elasticity under pressure and an alteration of attitudes under strain that protect it from injury."

As directly concerning the foot as an entity, let us for a moment consider the passive supporting function. To act as a perfect support, all mechanical devices must have no less than three points in a triangle, bearing an equal or a proportionate amount of superincumbent weight, each point in the triangle bearing a definite relation to stress and strain. In the normal, bare or uncovered foot, such points we might designate roughly as follows: First, the center of the heel; second, a point between the fourth and fifth toes, and third, a point under the great toe, the last two points taken as a whole, spoken of as the anterior arch or ball of the foot. In such a distribution of the body weight, we would find no strain to any particular part of the foot. The construction of the foot demands such a distribution in acting as a passive support.

As an active support, as in walking, the points will remain the same, but in this function we find that the weight is not borne at the fixed points except in stages of the step, and it is the perfect transference of this weight that makes our step light and elastic, with a minimum of exertion and a minimum of strain.

In making a step the weight falls first on the first point, center of heel; then as forward movement is made, onto the outer side of the front part of the foot, then across the ball or anterior arch onto the third point, at the base of the great toe. This last point gives the final spring to the step. Such a series of transfers of weight bearing must demand a straight position of the foot, or almost an intoeing in making the step, since we know that the outer border is more closely in contact with the

ground surface than the inner, while the inner border is higher, is arched and less supported. This position cannot be comfortably assumed in wearing the average shoe, since the shape of the shoe itself works against this, and the foot is held in the line of the shoe, or, in other words, the foot is turned outward, bringing undue weight on the inner side, and resulting in definite strain. The diagram, No. 1, illustrates this point, when note is taken of the perpendicular common to the inner border of the three tracings, and the line passing through the center of the heel of a proper shoe is compared to the imitation of the proper shoe and the average shoe.

Reverting to the passive supporting function again, we find that the center of gravity falls through a certain fixed point in the foot, when the foot is properly placed, but what happens when shoes are worn with the usual height heel? With each raise in the heel the center of gravity must be carried forward, throwing more weight on the forepart of the foot, but we find no corresponding increase in breadth of the shoe in this part, allowing for the expansion that is necessary to accommodate the increased pressure; but, as a matter of fact, we do find quite the opposite, a narrowing. This constriction changes our original three points of support into really two, and our law of balance and support is broken. The continued use of such improper shoes must necessarily result in decreased body efficiency and in deformity to the foot.

Fig. 2.

Every one knows how inhuman it seems of the Chinese to constrict the feet of their fe-

male young, but is the Chinaman really alone in such practice? It would seem that our methods of construction are only a grade less than theirs, more modernly practiced and slower in result. As an illustration of this, the two photographs, Nos. 2 and 3, are presented, the first showing a scale of toes and

Fig. 3.

heels of ordinary shoes, based on nothing that is reasonable, but on the demands of fashion, taste and society, rather than on the principle necessary. The other photograph will show the foot of an infant of six months, with the natural lines of the foot, as compared with that of an adult, whose foot has been only moderately compressed by wearing the ordinary shoe. The foot is taken through the stages as shown by No. 2, and it becomes a question of the foot fitting the shoe, when it should be the shoe fitting the foot, until the stage of ultimate deformity and strain is reached, then we see that a return is made to almost our first or original list. This is found more frequently in females than in males, but is true to an extent in both.

Taking up the most usual deformities of the foot produced in this way we will consider first, Hallux Valgus, popularly known as a bunion. It is a deformity of the great toe, in which we may find an actual displacement at the metatarso-phalangeal joint, with an enlargement here, and the toe is crowded over and outward. It is a condition due simply to a short, cramped shoe, but the cause is often attributed to heredity by the patient, which in itself attests the fact that the short shoes have always been with us. While the gradual formation of this deformity has been going on we find that the shoemaker has been wiser than we, and has given us the short, tapering toe, in which the foot seems to fit, all tending to increase the abnormality, when it should have been the straight inner line shoe of sufficient length and breadth to allow the toes to spread.

Following along the same lines, we see quite a number of severely contracted feet, due mostly to a short shoe. The patient is always inclined to say here that the soreness and discomfort which results is due to what they choose to term as Rheumatism, when in truth it is only a low grade inflammatory condition between the approximated bones, brought on by pressure. Later the muscles and ligaments may undergo more or less of a permanent contraction, and finally we have an almost permanently contracted, painful foot.

Another interesting condition is that of Post

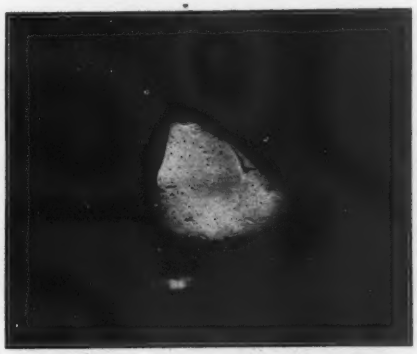


Fig. 4.

Calcaneal Bursitis, which is an inflammatory process in the bursa situated between the Os Calcis and the Tendo-Achilles. This is often caused from the pressure of a shoe too short, causing the bursa to become acutely inflamed.

undergo pathologic change, and result in a definite lump or hump on the heel, necessitating surgical removal in some instances, and in others only inconvenience and pain.

It seems almost needless to mention the larger class of foot conditions which we might call weak or flat feet, due in a large number solely to improper support in the shoe alone. As an active support, the foot must contract and expand, but, by being constricted at one point and unsupported at another, the play of the muscles cannot be as is intended and strain must result. Weakness follows strain and relaxation follows weakness, so we might trace the foot through a vicious cycle, to one giving very definite symptoms. In this class of cases, in the earlier stages, we get most gratifying results from the use of properly adjusted shoes and selected exercises, rather than by a routine application of plates or supports. Sometimes a simple broad heel, with a forward inner corner and a correct toe ordinary shoe, will relieve the patients. It is almost wrong to suggest a mechanical support alone, and pay no attention to a later neglect and return of the condition, for certainly our duty is to instruct our patients in regard to a permanent cure, and not aim at a temporary relief of the symptoms.

As an illustration of the relation of shoes to body efficiency, I wish to submit a brief history of a few selected cases, showing as they do the degree of incapacity and the economic feature in each:

Case No. 1, male, furniture salesman, age 50, gives a history of gradual increasing pain in the foot and knee, coming on for past year. Inability finally to perform his duties. Physical examination showed weakened feet, collosities, and strain to knee.

Diagnosis made of weak feet. Treatment given by simple selected exercises, prescription shoes, and instruction as to care. After history shows patient has resumed occupation, and to date no return of the condition.

Case No. 2, female, cashier, age 35. Gives history of soreness in the back of the heel, seven years duration, and is unable to wear proper size shoe. At times unable to walk. Physical examination shows an enlargement on the posterior surface of the heel, swelling marked, tenderness acute on pressure.

Diagnosis made, Calcaneo-bursitis. Operation, removal of bursal sac. After history shows patient wearing ordinary correct shoe, and enlargement has disappeared. Able to perform duties with comfort.

Case No. 3, male, blacksmith, age 40. Gives a history of tiring quickly when standing at work, and able to work only about half time. Physical examination shows a weakened right foot, and a commencing condition in the left.

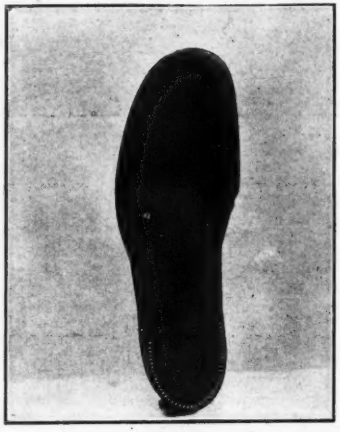


Fig. 5.

Diagnosis made of commencing flat foot. Treatment given consisted of putting on an ordinary correct shoe, with a broad heel base, with a forward inner corner, and exercises. After history shows patient enabled to work full time with comfort.

Case No. 4, male, merchant, age 30. Gives a history of having strained left knee two years since, partial recovery, but on any twist of leg, soreness returns for a few days. Also gives a history of having been told at time of first injury that he had a slipped cartilage. Physical examination shows very markedly

flattened feet, but giving no symptoms of strain. Left knee joint decidedly relaxed, and tender on the inner side.

Diagnosis made on history given, of chronic knee strain, with a probable pinched cartilage. Treatment consisted of a rubber bandage to knee and proper shoes with heels raised on the inner border to restore balance in the knee joint. After history shows that the strains have become less frequent and that soreness in the knee has practically disappeared.

Taking the four cases so briefly enumerated, with no attempt made to show anything peculiar about the individual case, we can see at a glance that the economic side of these cases is more or less an important one. More important than all in these cases is the question of decreased body efficiency, for it is not uncommon at all to find them complaining of a variety of weakness unknown to them as caused by so simple a thing as a bad shoe or foot.

In the class of cases that we term sprains or strains to the ankle and knee joints, our results will always be better when we realize and impress on our patients the necessity of putting the balancing points as nearly normal as possible. It might be said that the condition of a sprained ankle is oftentimes aggravated by a bad shoe, and certain it is that in a case of slipping cartilage it will be necessary to restore or exaggerate the proper position for the individual joint surfaces of the knee, or in other words, to convert a position of knock-knee to a position of bowleg, in order to minimize the strain and chances of a recurrence. To my mind, this is one of the simplest and most efficient adjuncts in our treatment, whether it be an operative treatment or not.

The sacro-iliac joints very often become affected from the change in balance and it is not searching too far to examine the shoes and feet of patients suffering with lumbago and backache, since a neglect of this will sometimes prevent a proper diagnosis or fail to reveal the cause. In women frequently a lowering of the heel of the shoe will accomplish a relief from backache, since it throws the gravity center backward somewhat and relieves the muscle and ligament strain of maintaining balance. This is probably an explanation of why so many of these women take a delight in wearing the so-called room shoes, which always have a minimum heel height and a broader toe.

The trained athlete, the sprinter and distance walker full well knows that his efficiency depends on the balance in his shoe, and also that the balance between muscle exertion and relaxation must be in a practically definite ratio, giving the maximum of relaxation with the maximum of exertion, so if it is true in this instance it must be true in our ordinary daily duties, as the amount of time spent in standing and walking by the average person would probably amount to three hours daily. To be more exact, it seems that we demand more of our physical self unequipped than otherwise.

The spine does not escape in these cases of bad poise, for many of them give evidence of low grade strains to the ligaments of the spine, and we also find that lateral curvature, or scoliosis, may be so produced in a growing child in whom there is a tendency to constantly assume a bad posture. It is not uncommon to notice a person walking just ahead whose heels show the lines of balance. One heel base turns a certain direction and the opposite one follows in the same line, which line if continued for a sufficient distance would terminate in a circle.

Lastly as concerns body efficiency, it seems necessary to mention gastroptosis and enteroptosis, pelvic displacements and early pregnancies. Much work is now being done on the congenital aspect of enteroptosis, so we would not be amiss in giving the balance in the shoe a place in the treatment of these conditions. It is obvious that pelvic displacements and mal-positions of the foetus in utero may be augmented by excessive heel heights,

though this point has never seemed to receive its just consideration.

In conclusion, it is unfair to suggest a reform and not hint at the remedy, so I will ask your indulgence a moment in a brief description of the essential points to be considered in the ordinary common sense shoe. Having gone into the mechanics of an improper shoe, it only remains to be said that a proper shoe is one which will give sufficient toe room, that will give support, at the same time having such lines as will allow the foot to be placed in proper position in standing and walking, with a broad, moderate height heel. The photograph is shown, giving the view of the sole of what we might term the average common sense anl efficient shoe.

DISCUSSION.

Dr. T. D. Smythe.—The subject of Dr. Scott's paper is interesting and his paper one of the most important that has been read before this section. As a practitioner of gynecology I have occasion to examine women very frequently, and their feet as well as their pelvic organs, and have felt called upon many times to advise them concerning their footwear with the hope of correcting such troubles as were brought out so clearly by the doctor in the reading of his paper.

We often fail in our efforts at successful treatment of pelvic conditions, particularly displacements and engorgements in patients that wear very high heel shoes solely as result of the high heel shoe, which throws the weight of the body on the ball of the foot.

Such women may be seen to stop suddenly on the street or elsewhere, for that matter, for the purpose of obtaining temporary relief from severe pain, removing the shoe and ringing and twisting the foot. The pain is very severe at times, and the paroxysms frequent, but I have found it difficult—in fact, impossible in most cases, to induce those who have this habit to correct it by adopting the use of a common sense shoe.

As a matter of fact the doctor is unable to regulate the wearing apparel of the members of his own family, and is advised not to waste his time in attempting to make reforms regarding ladies' dress.

I think that some pelvic conditions may be traced directly to the wearing of shoes improperly constructed, and other conditions are aggravated and become chronic as result of the practice, to say nothing of the amount of local distress, disease and deformity resulting directly from the cramped position in which the foot is maintained by wearing such shoes.

Great good both locally and general will be accomplished by the general adoption of the plans worked out by Dr. Scott concerning the normal and sensible footwear.

Dr. Scott.—Mr. President, when I suggested a reform in the use of shoes, I thought the best place to get started was with the doctors. Every patient is susceptible to reason, particularly when I tell them about the effect of incorrect shoes.

In answer to Dr. Smythe's question about how to get the heels down, I will tell of a little scheme I use, which works in the average case. Dr. Ansel Cook, of Hartford, Conn., had done something with the anterior heel. That idea was gotten from the Japanese shoe (showing illustration) which has two heels like that and the foot strapped on it in this position (indicating). Now, here is the shape of the average shoe (illustrating); that isosceles triangle is made of ordinary leather, cut this way, and laterally like that (indicating). You can make it any height. I use a quarter-inch. It is incorporated between the soles and adds about a quarter-inch in front, and I decrease the lady's heel one-fourth of an inch, and you have cut down her heel height, as compared to the ball of the foot, a full half inch. This is the first step I take to reduce it. After she finds herself comfortable with this shoe, I have no trouble taking the shoe and showing her that I have cut her heel down a half inch and increased her comfort just that much, and then she is susceptible to reason. You cannot cut down the heel of a lady's shoe from two inches to one inch without producing some evidence of secondary strain; they have been in that other position so long that the foot is all contracted up, and if you cut it down, they are sure to have trouble. You have to use that idea of Dr. Cook in introducing the thing. He brought out this anterior proposition, and I have tried it. Take ordinary sole leather and put it just in that place, and you will find your case immediately benefited, and if they continue to wear a thing like that, the trouble seems to disappear in about 99 out of 100 cases.

I have used this scheme to reduce the heel height in more than one case, as the first step in reducing it from two inches to one inch, and when they find you have decreased it that much, they will let you go ahead.

Now, I believe the doctors will have to reform this matter of shoes, and we must tell them of the effects. We have to treat the effects. About half of the orthopedic foot cases I have in my office are not due to any anatomical trouble, except from shoes. That is the best way to get the heel down that I know of.

Dr. Martin.—I want to thank the doctor very much. This subject is not so important with men, possibly, as it is with women, and I am one of those who firmly believe that most of the pelvic troubles today are aggravated by the kind of shoes worn, and it is only after wearing a comfortable shoe that we can appreciate this, and I hope that everyone has been as much impressed as I have and will go home with the idea of trying to improve conditions. I think by educating the public, we will make progress and get them to use better shoes. It was only by suffering for years as I have in getting comfortable shoes, that I realized the great importance of this subject.

Dr. Martin.—Why do you raise it in front and

lower it in the back? Could you not get the same result by lowering the heel, doctor, and letting the front alone?

Dr. Scott.—They don't want it lowered that much at first, and this method, besides relieving the strain under the front of the foot, reduces the height in the back. They don't know what you have done, and after you have gotten the results you are looking for, you can explain, and they will give you credit and let you go ahead.

STRAINS AND DISLOCATIONS OF THE SACRO-ILIAC JOINTS.*

By EDWARD S. HATCH, M.D.,
Orthopedic Surgeon to the Touro Infirmary and New Orleans Dispensary for Women and Children.

The papers that have been published relating to trouble with the sacro-iliac joints have been very few.

The early writers spoke of the condition as one related to pregnancy.

It remained for Drs. Goldthwaite and Osgood in 1895 to bring this matter before the medical profession in its true significance. Since then there have been quite a number of papers written dealing with the strains and dislocations of the sacro-iliac joints. But even today the writer believes that the large majority of these cases are still treated as cases of sciatica or lumbago.

When we think of the sacro-iliac joints we do not think of them as movable joints. They are classed under the term "Amphiarthroses," and Gray says that "only in the young, occasionaly in the adult, and in the female during pregnancy are the joints lined with synovial membrane."

Practically these joints have a slight range of motion the sacrum moving upon the ilia or the ilia upon the sacrum. The motion takes place either forward at the top and backward at the base of the sacrum or vice versa. The transverse axis of motion being at the level of the second sacral vertebrae. In cases of great relaxation slight motion in a direction at right angles to the usual one may take place. (See illustration.)

The shape of these bones not presenting any sockets or depressions, but being very broad and flat they depend for their stability on their ligaments to a greater degree than other joints, the posterior ligaments being the stronger. That a very slight amount of mobility beyond the normal range may cause much pain is due to the fact that the lower lumbar and upper sacral nerve roots forming the lumbar and sacral plexuses, lie over the anterior aspects of these joints. The pain therefore usually runs down the great sciatic nerve and occasionally is felt well down the leg. Dr. Dunlop has spoken of the fact that in his cases he has been struck with the various types of referred pain and he says that "the irritation of the obturator and accessory obturator would account for the pain referred to the hip joint, the accessory obturator, which is found in one out of every three bolies, would also account for the pain sometimes found over the appendix region."

In one of my cases the patient had very severe pains over and just to the left of the coccyx. This I was unable to account for satisfactorily, and unable to wholly relieve.

In taking up the causes of this condition we think first of the cases following parturition and menstration because these were the first causes described. During a hard labor it is easy to see how the sacro-iliac joints may become injured, and at the menstrual periods the pelvic organs are engorged with blood and that tends to stretch the ligaments of these joints. Personally, I have never seen a case of backache following labor that was bad enough to call for the specialist. By far the

*Read before the Section on Surgery of the Southern Medical Association, Hattiesburg, Miss., November 14-16, 1911.

most common cause in my experience is some form of traumatism.

The greater number of cases under this head are caused by the patient suddenly lifting some heavy object or from a fall, when he feels something give away in the back, "a crick in the back" as they say. This is due to a slight rupture or strain of the sacro-iliac ligaments.

In the other type the condition comes on gradually and is due to a prolonged stretching of these ligaments as in very heavy work where lifting plays a prominent part. Also after a long illness with recumbancy when the

X-Ray Picture Showing the Normal Dislocation With the Upper Part of the Sacrum tilted backwards.

muscles and ligaments become weakened and the lumbar curve is lost, the upper part of the sacrum in these cases bending backward.

We see one other class of cases in which the symptoms come after operation, and they are caused by the patient lying on a hard table for some time; when under ether, the muscles relax and allow the sacrum to tilt backward. These backaches are often overlooked by the attending physician and the convalescence is much prolonged; often it is many months before the cause is suspected and relieved.

X-Ray Picture showing Sacro-Illiac Joints in Which, Besides the Usual Dislocation, There is a Slight Change of Position in a Plane at Right Angles to the Normal One.

And lastly, these joints are not infrequently affected by hyper-trophic, atrophic or infectious arthritis.

I have also had one case in which the joints were strained by an old intra-capsular fracture of the femur, the unequal length of the legs causing the trouble.

SYMPTOMS.

Pain or backache is the one symptom always found. This may be dull ache or a very severe pain. This pain is found in the lower part of the back near the articulation and in severe cases runs down the leg following the sciatic nerve. There is usually limitation of the normal spinal motions and in severe cases the patient stands with a slight list away from the affected side, and with the knees slightly flexed. Any movements that tend to move the joints cause more pain. Tenderness is usually found over the sacro-iliac joints.

It is very hard to prove actual movements in the joints, but by grasping the crests of the ilia with both hands and having the thumbs resting on the sacrum it is sometimes possible to feel the movements of the bones when the patient flexes and extends the legs. The symptom on which I place great stress is raising the extended legs. This is always present in this condition to a greater or less degree.

The hamstring muscles are attached to th ischium and any motion of the ischium tends to move these joints. Raising the extended legs brings on pain at once.

Sometimes it is possible to raise the extended leg only a very little, but in mild cases, pain is not caused until the leg is raised quite high. In unilateral strain, pain is caused in the diseased joint sometimes when the opposite leg is raised. Rotation of the thigh or abduction or adduction does not cause any pain. Raising the legs flexed at the knees causes no pain. The patient with a bad case of sacro-iliac strain has a stiff attitude which differs from the stiff attitude of a patient with a tubercular spine and which, when once seen, is always remembered.

One point which I wish to especially make today is that we have all grades of the condition and one must not expect to find the severer types as a rule. We see all classes of cases from the very mildest case where it is hard to bring out any of the symptoms, to the more severe. In my cases at least four-fifths are of the milder varieties. The diagnosis of these cases is usually easy. The diseases which are sometimes confounded with this condition are sciatica lumbago and chronic rheumatism (so called).

Now we must realize as I stated above, that we are going to see all grades of this disease; and while it is easy to make a diagnosis in the patient who has a deformed position of the lower spine, a limp, and who cannot recover his balance when rising from a stooping position, it is often harder to make the diagnosis in the mild cases. There is no tenderness over the sciatic nerve as in true sciatica.

It is my custom to strip these patients and first examine the back carefully, noticing any change in the normal contours, such as a flattening of the lumbar sacral curve or an exaggerated lordosis. Also to look for any deviation from the perfect upright position.

Next, without bending the knees I have the patient bend forward. Sometimes they bring up with a jerk on account of pain, but in all cases the forward bending is somewhat limited. Then the lateral bendings are tried. These are limited and the patient bends better toward the affected side. Test for joint motions are then made as described above.

The final test, that of raising the extended leg with the patient flat on his back on a table, is then tried. This I believe to be more nearly constant than any other symptom. It goes without saying that in cases suffering from tuberculosis, or hypertrophic, atrophic or infectious arthritis of these joints that these symptoms will be simulated. But in these

cases there will be many other symptoms that will come to our aid in making the correct diagnosis, and the X-ray will clear up any doubtful cases.

The first requisite is to hold the joints rigid or as near that as possible. In other words, give them support. This is easily accomplished with the adhesive plaster strapping. It is my custom to have the patient stand in front of me with the hands together at the back of the neck in their best standing position. Then I apply the two inch adhesive straps, about eight to nine in number, from one side to the other, pulling in each direction alternately. The straps should run from below the anterior superior spines to the level of the trochanters. They should be put on as tightly as possible. In cases where there is actual dislocation it should be replaced before any support is applied. That this is imperative goes without saying.

This is usually accomplished easily by etherizing the patient and raising the extended leg of the affected side. With the patient on his back one will often hear a distinct click as the dislocation is reduced. Then the patient is placed on his abdomen and the straps applied as above. It is sometimes possible in these dislocated cases to let the patient lie in an extended position with the face downward, the shoulders resting on some stationary object, and the hips on another. Then the weight of the body will pull the sacrum into place. Then the strapping is very quickly and easily applied and usually relieves the pain at once. It will hold for six to seven days when it should be renewed. Often in my clinic after I have strapped the patients once or twice they do not return, as their symptoms have been entirely relieved. Then except in the mildest cases some form of permanent support is needed. This can be in the form of a brace such as described by Dr. Osgood to be attached to the corset; a plaster or leather jacket or elastic trunks. These latter give very good support, and have been very useful in my hands, but they must fit perfectly. In the majority of cases, all that is needed is a well-made leather belt, which occupies the same position as the plaster strapping and is held in place by peroneal straps.

In the very mild cases the wearing of this belt for a few weeks or months is all that is needed.

As these cases are due to a relaxed or torn condition of the ligaments, general treatments, such as deep vibratory massage and hot and cold showering, are great helps.

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DISCUSSION.

Dr. Campbell.—The paper was certainly an excellent and timely one. Undoubtedly a very large number of backaches are due to this condition. The doctor has brought out very carefully and accurately all of the anatomy of the parts and the mechanical features. I have had quite a number, and I would like to mention one class of cases; that is, enteroptosis, a type of individual with slightly rounded shoulder, lax joints and protuberant lower abdomen. In that class we very frequently have this condition, and that class, particularly, require abdominal support, and support for the shoulders. I have recalled one case in a woman who had been treated in a hospital for two months for hip trouble, and had received all sorts and varied treatments. She suffered intense pain in the sciatic nerve and hip joints. In this particular case, it was a simple strain, and I personally have found that most of my own cases have been strains, more than dislocations. A plaster cast was applied on a special apparatus. The results in this case were absolutely perfect. She had suffered in this condition a number of years, particularly after hard work. After the cast was removed, I applied a brace, with a steel applied in this region. She has had perfect and absolute relief for nine months.

Dr. Cohn, of New Orleans.—I simply want to express my appreciation of the paper, and want to relate a case of a young lady who has been treated for hysteria, lumbago, etc., and I don't know what, and she made the remark that she never saw me except when she was menstruating, and then she wanted her back strapped. We strapped her back exactly as Dr. Hatch suggested, and the young lady gets along well and has no pain. I might say that now she has the habit of sending for me the day before she is due, and she is relieved without any medicinal treatment.

Dr. Hatch.—I want to express my appreciation to Dr. Campbell and to tell him that I feel very grateful that he has reported the case of enteroptoses It is no doubt true that we do get strain on the parts, but the same treatment applies. It is almost unbelievable the number of different diseases that this treatment is applied to. It is not that men do not know these things, but the fact is they do not believe they are so.

WHY LIGATE THE SAC IN HERNIA?*

By DR. H. A. ELKOURIE.
Birmingham, Ala.

In presenting this paper, I am compelled, for my own sake, to invite your special attention to the fact that neither the history of medicine, nor former experiments of others, form a very material support for my contentions, and yet in my own mind I firmly believe that my arguments are logically unanswerable.

If medicine was a fixed science, or in plainer terms, if we were able to arrive at a definite end, or a line of limitation, in any surgical procedure, and without the possibility of room for improvement, no physician of ordinary capabilities, as myself for an illustration, would dare attempt a modification, or totally disregard such a reputable and an effective operation as that of Bassini's or the other so-called ideal operations for hernia.

I am not unmindful of the fact that any one in the position I occupy without an abundance of surgical experience, without the prestige gained by an important official position in the medical sphere, must necessarily compensate for the unfortunate deficiencies incurred thereby, with an unusually forceful, and uncommonly convincing logic. Being naturally deprived to some extent at least of the qualities heretofore outlined, I must in the outset appeal to your sympathies as well as your judgment, to grant me and "mine" some consideration and to combine your consideration with patience, and with tolerance, before you proclaim to the honored profession, you represent an unfavorable verdict. I have been, during all of my professional career, a modest, unpretentious, ordinary, practitioner, doing my own surgery whenever I felt that I was able to cope with conditions as they presented themselves to me; this is mentioned merely to impress you that I am not disposed to get notoriety at the expense of accuracy and of honesty.

My paper could be condensed to the one interrogation to-wit: Why should we ligate the sac in hernia and a little independent thought will eliminate this answer; there is no special good reason why we should ligate the sac in hernia. Not because the sac is a foreign and a harmful piece of tissue to leave intact in the human economy; certainly not! Not because we gain any appreciable advantage in the removal of the sac; and most assuredly not because we save any time—then why in the name of common sense do we ligate the sac? I maintain that the sac should never be removed with the possible exception of diseased conditions pathologically affecting the sac itself; a condition I have never seen either in my own cases or in the cases of others I have chanced to witness or hear of.

I have done within the last six years twenty-two hernial operations without removing the sac, and my results have been most flattering indeed. I have not had a single reoccurrence, and out of the twenty-two, eighteen are now living within a radius of a half days' drive from my office.

Before I outline briefly my method of operating for hernia I may, with your permission, state that I have never read, nor heard from the lips of a surgeon (although I have many times asked the perplexing question), a sound and convincing argument as to why it is necessary or beneficial to remove the sac; therefore I am forced to state that the removal of the sac has been mostly due to the impress of tradition and the force of long established custom and not because it was, or is, a necessary procedure.

*Read before the Section on Surgery of the Southern Medical Association.

The method I pursue briefly setforth, is as follows:

I make the usual incision through the skin, and superficial fascia, and having gone through both the external and internal oblique, and finally expose the sac. I open the sac and deal with the contents, or hernia, according to its nature and the condition it is in. I do not disturb the cord in the least, nor attempt to break up any real or imaginary adhesions that may exist between the sac and cord. I then introduce a purse string suture through the neck of the sac, up in the ring which is tightly and firmly drawn. I then scarify the internal surface of the sac either with a rough strip of gauze or a needle; I then take three or four sutures longitudinally introduced through both layers of the sac in order to insure firm adhesion. This procedure, with the purse string suture through the neck of the sac, obliterates the possibility of reoccurrence. I then suture the transvarsails and internal oblique to the lower shelves of Poupart's ligament. The external oblique to the upper shelves and then the superficial fascia and skin.

The most conspicious features that make this operation the ideal operation are:

First—A saving of considerable time consumed in handling the sac in the attempt to free it from the cord and ligate it. I have seen surgeons deserving their title consume from twenty to thirty minutes in this one procedure.

Second—The elimination of unnecessary handling of the cord which oftentimes has caused the patient many hours of pain and the surgeon many hours of worry.

Third—An obliviation of a depression, found, as a rule, after the Bassini's method, as with the sac left intact a smooth surface and which is due to removal of the sac where-is the result. In other words the sack left intact makes the suture line of the transversalis to Pouparts ligaments smooth and even.

Fourth—A double security against reoccurrence through this method, as against one in Bassini's—that is to say that in the Bassini's method you have only the sac stump as a preventative against reoccurrence, whereas by this method you accomplish all that is to be accomplished with ligation by the purse string suture up in the neck of the sac, and in addition thereto, you have a very valuable reinforcement produced by the adhesions between the two layers of the sac.

Fifth—The simplicity of this operation, the avoidance of unnecessary handling of the cord, the elimination of transplantation of the cord, which is a difficult procedure makes this the ideal operation.

Dare I say, that I am of the opinion that my operation is superior to Bassini's. If not, why not?

In conclusion if I have gained one sympathizer, one charitable man who will deign to try this method once—just once—I have been abundantly rewarded.

DISCUSSION.

Dr. E. Denegre Martin, New Orleans, La.—If I understood the essayist rightly, he said that he does not ligate the sac, but he ties it.

Dr. Elkourie.—I meant the removal of the sac. There were only two points I desired to bring out in my paper and these were: The removal of the sac, and the unnecessary handling or stripping of the sac from the cord.

Dr. Duncan Eve.—Do you ever open the sac?

Dr. Elkourie.—Yes. After drawing it down, I scarify the internal surface of the sac with a piece of gauze, and introduce three or four longitudinal sutures of catgut through both layers of the sac to insure firm adhesion between the two layers.

Dr. Martin.—What do you do with the cord?

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Dr. Richard Barr, Nashville, Tenn.—I think Dr. Elkourie's idea is correct that it is a mistake to inflict too much traumatism in separating the sac from the cord in many cases. However, I think I would be afraid to follow his technic in disposing of the sac. He will occasionally get hydrocele occurring after an operation of that kind when the peritoneal surfaces of the sac are left together. In these cases I leave the sac in place, open it, and turn the ring side out around the cord itself, and I believe that is the recognized operative procedure at the present time, and I think we should dispose of the sac with as little traumatism as possible, and with more speed, and when we do this there is less likelihood of having a bad after-effect. I think the doctor's idea is correct. We have been seeking a method to avoid the removal of the sac. At

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times you can simply follow the principles of the operation you do for hydrocele in a case of congenital sac, and where that can be done, you split it down.

Dr. Jere L. Crook, Jackson, Tenn.—The doctor in his paper says, Why ligate the sac in hernia? Of course, every one can answer why. If we remove the sac, it would avoid a good deal of misunderstanding about this matter, because Dr. Elkourie does tie the sac, using a purse-string suture, while some surgeons transfix and tie across.

Dr. J. A. Crisler, Memphis, Tenn.—There is one point I wish to bring out, and that is the possibility of hydrocele occurring in the tissues later, on account of the peritoneum that is left down there. The other point would be in ligating the sac and taking the stump, I think it can be carried inside the peritoneum and up behind the muscles, getting rid of the dimple which is so frequently the beginning of another hernia. That is one advantage in tying the sac, to carry it in and turn it on itself, and bring the ligature up through the muscles and anchor it there out of the way. The doctor's operation is merely a modification of the Macewen operation, wherein Macewen uses the sac to stop the hole, folds it on itself. I do not think any of the surgeons of today would recommend the removal of the sac at any great expense to the tissues of the part. In that I think Dr. Elkourie is absolutely correct. I think we would be inclined to traumatize the tissues too much, and I think the doctor's explanation and idea are correct, and even where that cannot be done without more or less trauma, we might resort to the modification suggested by Dr. Barr; the sac could then be left and cauterized a little with iodin or something to destroy the secreting surface of the sac. The idea is a good one. The doctor's point is well taken, and he has a lot of sympathizers, and we are glad to see any one advise something which is a little at variance with our established methods of doing things. He deserves great credit for presenting this idea.

Dr. George R. Livermore, Memphis, Tenn.—The author of the paper advanced the argument that the sewing together of the sac acts as a better protection against the recurrence than the simple ligation of the sac, but I do not see how that can be, if he puts a purse-string suture just above as we would ligate the sac, putting the needle directly through and doubly ligating the sac and cutting it off. It is not the sac which gives protection, because recurrence does not take place where the sac was ligated. If the ligation of the sac was the principal thing in guarding against the future recurrence of hernia, what would be the sense of enclosing the muscles at all? There is absolute obliteration of the ring.

In regard to injury of the cord and testicle, I presume Dr. Coley, of New York, has done more hernia operations than any other man in this country. I worked with him a number of years in the hospital, and never saw during that time injury of the cord following any of his operations. In any of his reports of his cases of hernia you do not see any severe injury to the cord or any trouble to the testicle referred to, atrophy of the testicle, or anything of that sort. Dr. Coley supports the testicle by a strip of adhesive plaster, with cotton, or some gauze as a pad, which serves as a protection for the testicle There is never any trouble arising therefrom. In one case he left a portion of the sac because it was a large hernia complicated with hydrocele, and the adhesions were very extensive. He cut away as much of the sac as he possibly could, and sewed the edges of the remaining tissues together. That is the only case where he left a portion of the sac.

Dr. John A. Gaines, Nashville, Tenn.—I failed to hear all of the doctor's paper, but there is one point I gathered from the discussion which I want to emphasize. One gentleman in speaking a moment ago in regard to the question of utilizing the sac referred to the Macewen operation. Future circumstances in utilizing the sac as a part of the process should in no way in my opinion be an excuse for leaving the sac in the wound. Ordinarily, as has been mentioned by the previous speaker, what we want to do is to clean out the old ring without inflicting too much traumatism and close the ring with the normal abdominal wall structures, so as to give firm, close union. There should be nothing left in that ring that will have a tendency to interfere with healing or union of the supported structures, the real structures of the abdominal wall, or to cause future recurrence of hernia.

Dr. Livermore did not speak of one phase of Dr. Coley's work, and what impressed me is the fact that in cases of variocele and conditions where we have large dilatation of the blood vessels in the ring, Coley has suggested removing those because the presence of the vessels will interfere to a certain extent with the control of the canal, and I do not believe it is wise to leave any mass of tissue. If you leave the sac, pull out the parts in a different way so as to give them no relation to the inguinal canal.

Dr. W. P. McAdory, Birmingham.—In the literature regarding hernia and discussions of this kind, they all seem to lose sight of the fact that there is one thing to be remembered in connection with the operation, and that is, to bring the conjoined arch of the tendon down to Poupart's ligament and obliterate the ring, regardless of whether you remove the fat in there or the enlarged veins. If this is done, whether the cord be put inside or outside, makes no difference. You will have a cure for the hernia. If you leave fat or enlarged veins, you are going to have a recurrence of the hernia. The main step in a hernia operation is to bring the muscle and tendon to Poupart's ligament; what you do with the sac, so you cut it off, makes no special difference.

So far as the after-effect on the testicle is concerned, I have seen but few cases where there was any after-swelling of the testicle, which is easily relieved and easily gotten rid of by simply applying adhesive plaster after the manner that Dr. Coley does, and simply supporting the testicle exactly as you would support it in case of epididymitis or orchitis, or anything else like that.

Dr. A. A. Herold, Shreveport, La.—My idea is that the main point in operating for hernia is to ligate the sac thoroughly, showing the intestine well back. It was shown by an Englishman a year ago, especially in case of congenital hernia, that the tendency to the formation of a pouch is the main thing in the etiology of hernia.

Dr. Elkourie (closing the discussion).—With ref-

erence to the remarks of Dr. McAdory, I agree with him that the main thing in operations for hernia is to bring the arch of the conjoined tendon down firmly to Poupart's ligament. I do not believe that position can be contradicted, and if that is the case, what is the use of handling the sac for twenty or thirty minutes, separating it from the cord and from adhesions? I have seen the cord handled and handled until as a witness of the operation I became disgusted. There is no necessity of consuming twenty or thirty minutes in stripping up adhesions and going around the cord to get the sac out of the way. The only way to get the sac out of the way is to remove it, and I do not see any necessity in handling the cord so much or in transplanting it.

ECHINOCOCCUS CYST OF THE LIVER. REPORT OF CASE.*

By GILMAN J. WINTHROP, M.D.,
Mobile, Ala.

Echinococcus disease is of decidedly uncommon occurence in the United States. Not only are very few indigenous cases reported, but the total number of native and imported cases recorded is small.

Somer (1), several years ago, was able to collect but 100 cases in man for the United States. Lyon (2), up to July 1, 1901, could record but 241 cases for the United States and Canada. Of this number, 136 were foreigners, 92 nationality not determined, 10 were negroes, 2 Canadians and but one a native American.

But few cases are noted in the recent American literature and even with our increasing foreign population the disease is still surgically rare.

The case reported below was seen and operated on in conjunction with Dr. F. M. Inge, of Mobile, Ala., and through his courtesy I am enabled to report it.

CASE HISTORY.

A. G. Age 32. Single. Born in the Cape Verde Islands. Has been a sailor from youth. He has lived, for short intervals, in the Cape Verde Islands, Spain and Portugal and has visited England, Australia, Brazil, etc. Has been employed on the same ship for several years past and was closely associated with a pet dog aboard ship, the dog sleeping in the same forecastle with the sailors.

Some ten months ago he first noted a mass in his upper abdomen. This mass slowly grew larger and he could feel it pulsate at times.

It was never painful, but its increasing size gave considerable inconvenience and produced a rather severe constipation.

The patient is a well-built mulatto man. The head and chest are normal. In the upper abdomen, from the costal border to the level of the umbilicus, there is a tense tumor, dull

*Read before the Section on Surgery of the Southern Medical Association, Hattiesburg, Miss., November 14, 15, 16, 1911.

on percussion and giving an indefinite pulsation probably transmitted. No fluid wave can be elicited. The growth is continuous with the liver flatness above and to the right.

Examination of the stools and urine is negative. The blood shows nothing pathologic and the cellular elements are present in normal proportion.

OPERATION.

Mid-line incision from ensiform to umbillicus. Firmly attached to the peritoneal aspect of the abdominal muscles was the dense fibrous or cartilagenous surface of the mass. The tumor was aspirated and found to contain a clear, straw colored fluid. The cyst was then partially separated from the abdominal wall, well packed off with gauze, and an incision made into it from which escaped about a gallon of the fluid and some whitish curd-like flakes. The opening in the cyst being temporarily closed, the cyst was dissected free from its attachment to the anterior abdominal wall and was found to extend well into the left hypochondrium and on the right side merged into the liver tissue. The cyst evidently arose well toward the center of the liver as above, the liver was spread over the cyst wall in a thin layer, nowhere more than an inch in thickness, while the inferior liver lobes showed as protuberances on the upper posterior wall of the cyst. The cyst wall was especially thick in front, at least one-fourth of an inch, and of a cartilagenous hardness, but grew thinner as it approached the liver.

It was deemed inexpedient to attempt excision of the sac from its extensive liver attachment. The opening in the sac was fixed to the abdominal wound and two large tube drains introduced and the wound closed about them. The patient stood the operation well.

The tube drains were removed on the eighth day and the interior of the cyst, now much shrunken, was daily swabbed out and packed with gauze saturated with a 5 per cent solution of iodine. This packing was renewed daily for fourteen days, by which time the secretion of the cyst had about stopped. The patient made an uneventful recovery.

The fluid obtained from the cyst showed a specific gravity of 1009 and gave a definite test for glucose and albumin. Microscopically it contained hooklets and scolices of the tinea echinococcus and crystals of cholesterin.

The cyst wall shows the typical laminated structure of the hydatid bladder.

I am indebted to Dr. P. O. Chaudron, Resident Physician of the City Hospital, Mobile, Ala., for the clinical findings noted above and for making the photograph of the case.

PRACTICAL ELECTRO-THERAPEUTICS AND X-RAY THERAPY. By J. M. Martin, M.D., Professor of Electro-Therapeutics and X-Ray Methods in the Medical Departments of Bailor University, Southwestern University and in the State Dental College, Dallas, Texas. 446 pages, with 219 illustrations. C. V. Mosby Company, publishers, St. Louis, Mo.

The reviewer has experienced some trouble in writing concerning this book, the trouble being that whenever he turned a page for investigation he found himself reading the text and studying the illustrations, while his pen hung idly in limp fingers. Dr. Martin has brought his account of electro-therapeutics down to the latest word on the subject. In the very beginning he gives a lucid account of the theory of ions and electrons, conveying an idea thereof that is intelligible even to those who have not previously paid any attention to the subject.

His differentiation between the various forms of electric energy used in medicine is graphic and satisfactory. His descriptions of the various devices and apparatus used in its application embraces every form worthy of consideration and is profusely illustrated. But it is in the details connected with X-ray work that his book is strongest. He describes and shows the different tubes now in use, and explains the principles upon which they operate and the technique of their use as thoroughly as any other author with which the reviewer is acquainted. Though there are larger volumes devoted to the subject of electro-therapeutics, it is doubtful whether any are more thorough or more satisfactory.

THE MENSTRUAL AND PREGNANCY HISTORY OF 129 FEMALES IN A HOOKWORM INFECTED FACTORY VILLAGE.*

By CH. WARDELL STILES,
Professor of Zoology, U. S. Public Health and Marine Hospital Service.

While conducting studies on parastic diseases in a cotton mill village in the sand area of one of the Gulf Atlantic States, I was able to collect certain data[1] in regard to the history of menstruation and pregnancy in 129 females, and the results are submitted here as a contribution to the general subject of hookworm infection.

Although it was somewhat difficult to obtain all the facts desired, it may be taken for granted that all of these females were born in the Southern States, and that most of them were born either in North Carolina or South Carolina. All are white and of American descent. Many of them are working in the cotton mill and the others belong to cotton mill families. Nearly all of them lived on farms prior to coming to the mill.

It will be recalled that the Southern girl is expected to begin menstruating at a slightly earlier age than the Northern girl. It has been my observation, however, that many of our Southern rural white girls and of our cotton mill girls frequently do not begin their menstrual life so early as is generally supposed, and that there is a great tendency to an irregularity, especially of the delayed type. I know of a number of such girls who have not menstruated until they were 18, 20, 22 and in one case 26 years old, and I have seen some of these girls who menstruate only two to eight times a year. Without being able to present exact statistics on the subject, my general observation has been that the menses seem more likely to be irregular in the warm months than in the cold months.

From some of the families it is possible to obtain full data, but from some of the women it is impossible to obtain the facts. The gathering of exact statistics on the points at issue is rendered difficult by various factors. For instance, many of these women and girls do not know their exact ages; some of them refuse to be examined for hookworm infection; the former history in many instances is very suggestive of an early hookworm infection, but the disease has evidently been outgrown after coming to the mills and reinfection has perhaps not occurred. From the latter circumstance it is clear that while an early irregularity may have been due to hookworm-anemia, the hookworm examination may be negative at the time data are collected.

Considering the circumstances under which these girls and women have lived, it is a conservative estimate that of these 129 females, fully 70 per cent have had hookworm infection at some period during their life, although since this infection undoubtedly varied in degree in different cases, it was probably not of the same significance in all individuals. One would scarcely be justified in concluding that all cases were infected before puberty, although this would doubtless be true for most of the individuals. Thus it is seen that not only are we dealing with inconstant factors in respect to ages, but also in resepct to the age at which the hookworm infection occurred and the degree and effects of the infection. These complex premises should be held in mind in studying the statistics.

Hookworm Anemia as a Factor in Amenorrhoea.—That the average physician does not

(1) In gathering the facts very material assistance was rendered by two nurses, whose services were kindly placed at my disposal by the cotton mill company. These nurses were engaged to look after the women and children who were undergoing treatment for hookworm disease.

*Read before the Southern Medical Association, at its fifth annual meeting, Hattiesburg, Miss., November 14-16, 1911.

yet fully realize the importance of hookworm infection as one of the many factors in amenorrhoea is evident to any person who has had extensive experience with this parasitic infection. As a very pertinent instance in point it may be stated that the twenty-year-old case of complete amenorrhoea mentioned in this article has, according to the statement of her mother, been under treatment by eight physicians for her failure to menstruate; she is a typical case of hookworm disease whose trouble was easily recognized at a distance of thirty feet without microscopic examination; the diagnosis was confirmed microscopically; one course of treatment was given, and, according to the girl's statement, she passed "legions of worms;" but as too frequently occurs when marked improvement follows the first course, it was difficult to induce her to complete the treatment. According to the statement of the girl's father he has been kept a poor man because of the doctors' bills and drug bills incurred on account of this girl.

Time after time I have found cases of amenorrhoea clearly attributable to hookworm anemia, when the girl had been treated for months or even years, but a proper diagnosis had not been made.

It would be erroneous to assume that all cases of this kind are to be found among girls in poor financial circumstances. On the contrary, it would not be impossible to cite cases from well-to-do college or high school girls.

Experience with hookworm infection as a factor in menstrual troubles in our Southern girls has taught me to consider this parasite immediately in every case of amenorrhoea or dysmenorrhoea that comes under my observation. The point as to its being a factor in the trouble can be confirmed or eliminated in a very short time, and a more general recognition of this policy will be well worth the while of every Southern physician. If, in a given case, the examination of hookworms is negative, no harm has been done. If the examination is positive, good has been accomplished at a trifle of trouble and no expense except a few cents spent in postage to forward the sample to the State Board of Health for examination.

Ages of Females Examined.—The present article involves 129 females, distributed as to age as follows:

12 years..4	24 years..4	38 years..2	53 years..1
13 years..3	25 years..5	39 years..1	54 years..1
14 years..4	26 years..5	40 years..1	59 years..1
15 years..5	27 years..5	41 years..1	60 years..1
16 years..8	29 years..1	42 years..2	63 years..1
17 years..5	30 years..3	44 years..2	64 years..1
18 years..7	31 years..2	45 years..1	66 years..1
19 years..6	32 years..5	46 years..1	69 years..1
20 years..8	33 years..1	48 years..3	Unknown 1
21 years..4	34 years..2	49 years..2	
22 years..4	35 years..2	50 years..1	
23 years..5	36 years..4	51 years..1	

Fractions of years are omitted in considering the ages. In several cases cited the age is only approximate.

This point as to ignorance regarding age has a practical bearing in various directions, legal as well as medical, and should be held in mind in labor statistics, medical statistics, and especially in connection with age certificates under the child labor laws. In too many cases these age certificates are worthless, and their present use is too frequently an almost valueless attempt to comply with the law.

Menstruations.—Data were obtained from 117 females, of 12 years or older, who had menstruated, and of 10 additional females who had never menstruated.

The ten non-menstruating females were divided as follows:

Age	Infected with Hookworms	Negative for Hookworms	Total
12.....	4	..	4
13.....	3	..	3
14.....	1	1	2
20.....	1	..	1
Total			10

The twenty-year-old girl with absolute amenorrhoea was, as stated in the foregoing, a pronounced case of hookworm disease.

The 117 menstruating females may be classified as follows:

Menses began at	Total No. of Females	Menstrual History			Result of Hookworm Examination						
					Infected, Menses		Negative, Menses		Not Examined—Menses		
		Regular	Irregular	Not Stated	Regular	Irregular	Regular	Irregular	Regular	Irregular	Not Stated
11 years	2	2	..	..	..	..	..	..	2	..	..
12 years	20	14	5	1	5	..	3	2	6	3	1
13 years	17	11	6	..	2	3	2	3	7	..	..
14 years	30	17	13	..	5	7	6	3	6	3	..
15 years	23	12	10	1	5	4	3	2	4	4	1
16 years	17	11	6	..	5	..	3	2	3	4	..
17 years	4	3	1	..	1	..	2	..	..	1	..
18 years	2	1	1	..	..	..	..	1	1	..	..
19 years	2	1	1	..	..	..	1	1	..	..	..
Total	117	72	43	2	23	14	20	14	29	15	2

Of a total of 127 females, the minimum age of the first appearance of the menses was 11 years, the maximum 19 years, while 1 girl of 20 years has not yet menstruated. The average age of first menstruation (of 117 females) was 14.2 years.

In 2 instances the women did not know whether they had been regular or not. Of the remaining 115 individuals, 72 cases or 62.5 per cent stated that they had been "regular," and 43 cases or 37.3 per cent stated that they had been "irregular" as to time. No account is taken here of painful menses, reported in several instances.

Of the total of 37 females in whom hookworm infection was demonstrated microscopically, 23 cases or 62.1 per cent stated that they had been "regular," and 14 cases or 37.8 per cent stated that they had been "irregular."

Of the 34 females who gave negative results upon microscopic examination, 20 cases or 58.8 per cent said they had been "regular," and 14 cases or 41.1 per cent said they had been "irregular."

Forty-six females declined microscopic examination. Of these, 2 gave no detail as to "regularity." Of the remaining 44 females, 29 cases or 65.9 per cent gave a history of "regularity;" 15 cases or 34 per cent reported "irregularity."

In considering these statistics it is important to hold in mind the fact that many of these females who were "negative" or "not examined" had undoubtedly had hookworm infection in earlier years, but had outgrown it, or, as is known in some instances, had been treated for it. It may further be noted that *Ascaris* and *Hymenolepis nana* are more or less common among these people.

Menopause.—Eighteen of the females in question stated that they had passed their menopause. The data obtained are as follows:

Number	Menses: Stopped at	Began at	Continued
1.....	35 years	13 years	22 years
1.....	38 years	13 years	25 years
1.....	38 years	16 years	22 years
1.....	39 years	12 years	27 years
1.....	40 years	11 years	29 years
1.....	40 years	13 years	27 years
1.....	40 years	14 years	26 years
1.....	40 years	15 years	25 years
1.....	40 years	15 years	25 years
1.....	40 years	16 years	24 years
1.....	41 years	19 years	22 years
1.....	43 years	15 years	28 years
1.....	44 years	17 years	27 years
1.....	45 years	12 years	33 years
1.....	45 years	14 years	31 years
1.....	48 years	15 years	33 years
1.....	52 years	13 years	39 years
1.....	53 years	12 years	41 years
18	761 years	255 years	506 years
Average	42.2 years	14.1 years	28 years

Thus the minimum age for the menopause was 35 years, the maximum was 53 years, the average was 42.2 years.

The minimum age in these 18 cases, for the beginning of menstruation was 11 years, the maximum 19 years, the average 14.1 years.

The minimum duration of the menstrual life was 22 years, the maximum duration 41 years, the average 28 years.

Pregnancies.—The history as to pregnancy was obtained for 58 women, who gave a total

of 240 fertilizations, or an average of 4.1 pregnancies per woman.

These were divided as follows:

1 pregnancy	14 women	=14 pregnancies
2 pregnancies	10 women	=20 pregnancies
3 pregnancies	10 women	=30 pregnancies
4 pregnancies	6 women	=24 pregnancies
5 pregnancies	4 women	=20 pregnancies
6 pregnancies	2 women	=12 pregnancies
7 pregnancies	2 women	=14 pregnancies
8 pregnancies	3 women	=24 pregnancies
9 pregnancies	1 woman	= 9 pregnancies
10 pregnancies	1 woman	=10 pregnancies
11 pregnancies	2 women	=22 pregnancies
12 pregnancies	1 woman	=12 pregnancies
13 pregnancies	1 woman	=13 pregnancies
16 pregnancies	1 woman	=16 pregnancies
Total		.....240 pregnancies

Illegitimate Pregnancies.—Four of these 58 women are known to have had one illegitimate pregnancy each, giving an average of 6.9 per cent of the women.

Present Pregnancies.—Of the 240 pregnancies, 6 are existent, leaving 234 pregnancies as a basis for further study.

Miscarriages.—Of the 234 past pregnancies, 19 terminated in miscarriage, divided as follows:

1 miscarriage	occurred in each of 10 women	=10
2 miscarriages	occurred in each of 3 women	= 6
3 miscarriaegs	occurred in 1 woman	= 3
Totals 14 women with miscarriages.....		19

Thus an average of 8.1 per cent of the pregnancies terminated in miscarriage.

Stillbirths.—Of the 234 pregnancies, 3 terminated in stillbirths, one woman having 2, another woman having 1. The average of stillbirths per 100 pregnancies was 1.2.

Dead Children.—Of the 234 pregnancies, 36 children born alive are now dead. This gives an average of 15.3 per cent of the total pregnancies, or 17 per cent of the children delivered alive. It was not possible to obtain sufficiently accurate data as to the ages of death to justify statistics.

Live Children.—From the 234 past pregnancies, there are at present 176 children living, giving an average of 75.2 per cent.

In other words, one-fourth of the 234 past pregnancies that have occurred among these mothers show a later history of a miscarriage, a stillbirth, or a funeral of the offspring.

Conclusions.—Among our Southern girls we may find the menses beginning at 11 years of age (or even at an earlier age), but in not an inconsiderable number of instances the courses do not appear until some years later. It is very common, especially among the tenant whites to meet girls of sixteen years of age who have never menstruated. The oldest case of absolute amenorrhoea in this class known to me was 26 years old.

It is also frequent that we find Southern girls who are very irregular in their menstrual periods. This statement holds especially for the tenant whites, and the cotton mill girls.

One of the common causes of this amenorrhoea and irregularity, especially when it is of the delayed type, is hookworm disease, and experience demonstrates that this fact is too frequently overlooked by practicing physicians, especially by some who have been ignoring the investigations of recent years, and who treat for symptoms instead of for causes.

The average age at first menses in 117 females reported upon in this paper was 14.2 years. The average age at the menopause in 18 females was 42 years, the average duration of their menstrual life was 28 years.

Of 34 past pregnancies reported in this paper, 8.1 per cent terminated in miscarriages, 1.2 per cent in stillbirths, the children of 15.3 per cent of the pregnancies are dead from various causes, 17 per cent of the offspring delivered alive died during the life of their mother, and in one-fourth (24.8 per cent) of the 234 pregnancies in women now living and representing ages from 17 to 69 years inclusive, the offspring is not alive at the present moment.

These statistics are based upon females living in a cotton mill village, where the sanitary conditions of most of the backyards are 10 on a scale of 100. The sanitary index of the farms from which these people came is unknown, but it certainly averages much below ten.

PELLAGRA: TREATMENT BY DIRECT TRANSFUSION OF BLOOD. REVIEW OF THIRTY-ONE CASES.*

By H. P. COLE, M.D.,
Mobile, Ala., U. S. A.

Allow me to express my sincere appreciation of the opportunity you have extended me to appear before this association. It is an honor to be gratefully received by Americans, for we look to the British Medical Association and the members of the British medical profession as the source of the great advances and discoveries of recent years in the entire field of tropical medicine. The work of your schools of tropical medicine stands as a monument to the entire profession.

Pellagra, a sub-tropical disease with marked tropho-neurotic and gastro-enteric manifestations, has been of increasing prevalence throughout the Southern United States of America in recent years. A large percentage of the cases in America are of the grave type and have resisted all accepted medical and hygienic treatment, the patients succumbing to myocardial and renal lesions associated with a chronic and occasionally an acute anemia.

On the 4th of August, 1908, I employed the first transfusion in the terminal stages of pellagra. Encouraged by the immediate improvement and rapid recovery in this patient, in collaboration with Dr. Gilman J. Winthrop, I have since transfused thirty additional patients in the terminal stages of the disease.

Whereas, we are unable to draw positive conclusions from this number of cases, we believe that certain valuable deductions may be derived from the statistics which they present. We have endeavored to preserve a spirit of skepticism and unbiased judgment throughout our investigations, and to draw accurate conclusions from the data presented.

Transfusion has been resorted to only in cases in the last stages of pellagra, or steadily retrograding under prolonged and careful treatment by approved therapeutic measures. To illustrate the type of cases in which transfusion has been employed, it is sufficient to state that two patients were moribund at the time of operation and one patient dies on the railway train twenty minutes before arriving at Mobile for transfusion.

	Cases.
Transfused	31
Females, aged 22-64	22
Males, aged 3-48	9
Recoveries (58 per cent)	18
Deaths (42 per cent)	13
Relapse (3.2 per cent)	1

This relapse occurred two years after recovery in an institutional patient exposed to reinfection. (Note.—Since reporting this paper the physician in charge of this case writes that a mistake was made in reporting the patient as a relapse. There has been no relapse or death in this case.—H. P. C.)

	Cases.
Temporary improvement followed by death	4
No improvement following transfusion	9
Complications incompatible with recovery	3

Patient 1, a male, aged 42, whose cases was complicated with tuberculous peritonitis, showed temporary improvement for several days, but died one month after the operation.

Patient 2, a male, aged 3, showed distinct improvement following transfusion, but died eight days later from intestinal perforation.

Patient 3, a male, aged 16, had bilateral

*Read before the British Medical Association at Birmingham, England, July 28, 1911.

pneumonia at the time of transfusion; died one week later; no improvement.

	Cases.
Complications presenting insufficient flow of blood, followed by death.....	2

In Case 1 the only available donor permitted insufficient transfusion through a severe degree of arterio-sclerosis. In Case 2 inadequate operative surroundings and a neurotic 14-year-old boy as the only available donor permitted insufficient transfusion.

	Cases.
Patients moribund at operation, followed by death	3

It will be noted that five of the thirteen cases in which death resulted might well be excluded, for the following reasons: Two patients received an inadequate amount of blood at transfusion and three were moribund at the time of operation. Excluding these five cases, the mortality rate would be 25 per cent, as compared with 42 per cent in the entire series. Considering the grave mortality rate in the type of patients on whom transfusion was performed, we can but feel that our mortality rate of 42 per cent in the entire number of cases compares most favorably with the mortality (80 to 90 per cent) in this type of cases treated by other therapeutic procedures. We have been unable to observe that transfusion was a direct factor of death in any of the cases; the deaths followed in periods of from three hours to one month after operation. One patient manifested symptoms of cocainism, necessitating a termination of transfusion at the end of fifteen minutes. This patient, however, made an excellent recovery from pellagra. Neither hemolysis nor agglutination, thrombosis nor embolism have been observed in any of the cases.

All of the recovered patients presented distinct and severe lesions of pellagra; there was marked emaciation, asthenia, anemia, reflex excitability, and in many cases grave mental changes. Severe pellagra erythema, stomatitis and diarrhea were present in a majority of the cases. Within a few days after transfusion there was either alleviation or disappearance of all the symptoms of pellagra; there was a rapid disappearance of the pellagra erythema, stomatistis and diarrhea, and also a gradual alleviation of the mental and nervous symptoms. In several cases there was an astonishing improvement in the patient's mental condition shortly following operation. In all cases there was rapid increase in the patients' hemoglobin index, a rapid return of body strength, a return of digestive faculties, and an increase of body weight. All the recovered patients gained from three to eight and one-half pounds in the first week following transfusion, one patient gaining thirty-four pounds within eleven weeks. All the recovered patients have returned to a normal condition within from one to four months after operation; several are in better physical condition than they have presented for years. The patient relapsing two years after transfusion was living in an institution and was constantly exposed to pellagra, and it is fair to assume that this case may be considered a reinfection rather than a relapse. (A later report shows that this case has had no relapse.)

It is but just to state that all approved therapeutic procedures were employed in the recovered cases, both previous to and following the operation. As these procedures were employed without beneficial effect previous to the operation, it is fair to assume that they were unimportant factors in the recoveries after transfusion.

We have been unable to ascertain a constant clinical sign that would indicate a certainty of recovery following transfusion. A moribund state of the patient and cases of pellagra with grave pathologic cardiac, renal or pulmonary lesions contra-indicate the employment of transfusion. The necessity of resorting to transfusion can be ascertained only on the appearance of positive signs of retrogression under approved institutional and constitutional therapeutic agents.

A majority of the patients referred for transfusion have recovered through hygienic, supportive treatment, not necessitating the employment of transfusion.

Transfusion, itself a delicate procedure, should be attempted only by those experienced in the technic, with a full knowledge of the dangers of the operation, and in adequate surroundings for its performance, and with the proper post-operation treatment.

In these transfusions we have endeavored to employ donors who have lived in the same environment as the recipients, assuming that such donors who have not contracted pellagra possess a certain degree of immunity.

Transfusion was resorted to from donors who have recovered from pellagra in three cases; recovery occurred in one case (33 1-3 per cent). This case relapsed two years following transfusion.

Transfusion was made from donors who had never had pellagra in twenty-nine cases; recovery ensued in seventeen cases (58 per cent).

We may assume that there is at least no preference of a donor who has had pellagra over a donor who has never had pellagra.

Transfusion was resorted to from donors who were relatives of the patient, but who had never had pellagra, in sixteen cases; recovery occurred in eleven cases (68 per cent).

Transfusion was made from donors who were not relatives, and who had never had pellagra, in twelve cases; recovery in nine (9) cases (75 per cent).

Here we may assume at least that there is no ground for preference of the use of a relative over the use of a non-relative.

We are unable to state from the statistics available that there is any immune principle transferred by transfusion. It is probable that any beneficial results obtained may be attributed to the relief of the existing anemia, permitting the patient's organism to approach its normal functional activities, and thus to combat the progress of the disease.

CONCLUSIONS.

In transfusion in thirty-one cases of pellagra we have found no ill-effect resulting to the patients directly from the operation. We may safely resort to transfusion in the severe type of case, steadily retrogressing under approved therapeutic procedures.

We have noted no advantage in the employment of a donor who has recovered from pellagra as compared with a donor who has never had pellagra.

There is apparently no advantage in the use of a relative for a donor as compared to the use of a non-relative.

The recoveries (58 per cent) following transfusion in the grave type of cases compares most favorably with the recoveries (10 to 20 per cent) in the same type of cases in which other therapeutic measures are employed.

The employment of transfusion in the terminal stages of pellagra must be undertaken with a full knowledge of the difficulties and dangers of the operation. Without careful selection of the cases and unprejudiced conclusions, this procedure will fall into an undeserved ill-repute.

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THE INTRODUCTION OF MAIZE INTO ITALY AND PELLAGRA*

By CARL L. ALSBERG, M.D.

(From the Office of Drug Plant, Poisonous Plant, Physiological and Fermentation Investigations, Bureau of Plant Industry, U. S. Department of Agriculture.)

The question of the exact time of the introduction of maize into Europe, and especially into Italy, is a matter of interest to physicians because of the opinion held in Southern Europe that the appearance of pellagra was coincident with the cultivation of this cereal in Italy. The contrary opinion, advanced by earlier workers, that these two events had no relation to one another, has again been brought forward by Sambon[1] as an argument that spoiled maize is not the cause of pellagra. He has attempted to bring further proof in support of this argument. His own opinion is that the disease is transmitted by insects. His statements concerning the introduction of maize into Italy have been given greater currency by frequent quotation.[2]

While it seems premature at present to accept any theory for pellagra, it has seemed desirable to call attention to certain statements in the literature that have caused confusion in the terms applied to maize. Sambon is among those who have been misled in this fashion. His argument, so far as it concerns the introduction of maize into Italy and pellagra, has two parts:

1. Pellagra existed in Italy long before the middle of the eighteenth century, although the earliest known records of the disease begin at that time.

2. Maize was used in Italy as an article of food as early as the middle of the sixteenth century.

If both statements be true, then one neutralizes the other. If pellagra existed long before it was recognized, and if maize was introduced earlier than supposed, the possibility that they appeared together still remains. The dates would merely be moved back. Otherwise one must assume that pellagra existed three centuries or more before it was described—an altogether reasonable assumption, but one no longer capable of proof. Probably the earliest positive knowledge of pellagra in Italy before Frapolli's publication in 1771 is the statement of Odoardi that about twenty years earlier Prof. Antonio Pujati, of Padua, had described the disease to his students.[3] Pujati probably saw the disease as early as 1740.

However, the evidence on which Sambon bases his conclusion that maize was a common article of diet in Italy before 1554 is based on a confusion of terms. Sambon finds references to "melega," "melica," "milico indico" in sixteenth century cook books, and assumes that these terms apply to maize. As a matter of fact, these terms were applied to sorghum, which was introduced into Italy in Pliny's time and known to him as Milium ex India. The sixteenth century botanists frequently used the terms "mellica," "melica," "milium indicum" for sorghum.[4] Even G. M. Savonarola's book on dietetics, upon which Sambon bases his conclusion concerning the early use of maize in Italy, contains conclu-

(1) Sambon, Louis W.: Progress Report on the Investigation of Pellagra. The Journal of Tropical Medicine and Hygiene, Volume 13, No. 18, page 270, September 15, 1910.

(2) Zeller, Geo. A.: Diet and Pellagra. A Warning Against Ill-Advised Attacks on Foodstuffs. This Journal, Volume 57, page 1,689, November 18, 1911.

(3) Lavinder, C. H.: Pellagra. A Precis, Revised Edition, Public Health Bulletin No. 48, page 1, Government Printing Office, Washington, D. C., 1911.
Roussel, Theopile: De La Pellagre De Son Origine De Ses Progres, De Son Existence En France De Ses Causes Et De Son Traitement Curatif Et Preservatif, pages 5, 8 and 9, Paris, 1845.

(4) Ball, Carleton R.: The History and Distribution of Sorghum, page 36, Bulletin No. 175, Bureau of Plant Industry, U. S. Department of Agriculture, Washington, 1910.

sive evidence that the term "melega" did not refer to maize.

Another edition of the same publication (1508)[5], earlier than that quoted by Sambon, contains the same passage. No one would assume that maize, brought to Spain by Columbus on his first voyage,[6] would by 1508 be a common article of diet in Italy. Indeed, it would be astounding if, as Sambon argues, maize were extensively used as early as the middle of the sixteenth century, since the earliest reference to maize in European literature is dated later than 1835.[7] Further, "melega" is treated by Savonarola in the same paragraph with "meglio" and "panigo" (panicum), both members of the millet group. Plainly, therefore, Savonarola himself regarded "melega" as belonging to the millets. Sorghum bears sufficient resemblance to millet so that Savonarola might have classed them together. No one, however, would have so classed maize and millet.

Furthermore, it is worth pointing out that the native name for sorghum has also caused confusion in pellagra literature emanting from Egypt, because the term "durra" is there applied to both sorghum and maize, sorghum being known as "durra beladi" to distinguish it from maize, "durra shami."[8] Some of the writers on pellagra in Europe have used the word "durra" alone,[9] so that to the uninitiated it is not clear what is meant.

That the terms "melega," "melica" and "milico indico" were applied to maize in early times there is absolutely no evidence. None of the early botanists used any of them for maize. The only terms at all resembling "melega" which it has been possible to find applied to maize are "melgone," "melegotto," "melicone."

"Melgone" was used by the historian, Muratori, writing in 1754 of the famine in the Papal States during the period 1588-1593. He remarks that if such famines are no longer common it is due to the introduction and the increased cultivation of maize, which in some districts is called "melgone" or "frumentone," and which makes up for the lack of wheat and other grain.[10] The suffix "one," in Italian, like the Spanish "on," denotes large size, grotesqueness and in general an extraordinary degree of what is contained in the primitive. Thus, frumentone, or formentone of earlier authors, is applied to maize, meaning greater wheat, because of the size of the kernels. "Melgone" is derived quite analogously from melega and applied to maize. The terms "melegotto," "melicone," are discussed by Lussanna[11] and shown to have the same derivation and meaning as "melgone." "Melgotto" is still the name for maize in the Bergamese dialect. Lussanna also shows that maize was first introduced into Lombardy in 1632 and that the statement which Sambon quotes from Robolotti to the effect that it was known earlier is not reliable.

Sambon was evidently misled by the fact that

(5) Savonarola, Giovanni Michele: Libreto de lo Excelletissimo Physico Maistro Savonarola de tute le cose che se mazano communamete: e piu che commune: e di quelle se beuene per Italia: e de sei cose non naturale: le regule per conseruare la sanita de li corpi humani con dubij notabilissimi. Simone de Luere, Venetia, 1508 4°.

(6) Roman: Republicas de Indias, Coleccion de libros que Tratan de America. Tome XIV, Vol. 1, page 42, Madrid, 1575.

(7) Collins, G. N.: A New Type of Indian Corn from China. Bulletin 161, page 24. Bureau of Plant Industry, U. S. Department of Agriculture, Washington, 1909.
Hance, H. F., and Mayers, W. F.: Introduction of Maize into China, Pharmaceutical Journal, Series 3, Vol. 1, December 31, 1870, page 523.

(8) Ball, Carleton R.: Op. cit., page 19.

(9) White, R. G.: Pellagra in Egypt. Transactions of the National Conference on Pellagra. November 3 and 4, 1909, page 123, Columbia, S. C., 1910.

(10) "Se a Tempi nostri o son rare le Carestie, o ad esse si provvede, a proceduto questo dall' introduzione, e dilatata coltura del Gran Turco, che Melgone o Frumentone vien chiamato in alcuni Paesi, supplendo esso alla mancanza de Frumenti, e d' altri Grani." L. A. Muratori: Annali d' Italia, Vol. 10, part 2, page 344. Milan, 1744-1754.

(11) Lussana, F.: Deu Autografi Contemporanei Alla Peste Del MDCXXX Ed Alla Prima Coltivazione Del Mais In Lombardia. Atti Del Reale Istituto Veneto Di Scienze, Lettere Ed. Arti, Series 5, Vol. 7, page 949, (1881).

in some regions where mush made from millet or sorghum was eaten, the common name of the millet or sorghum mush was in later times also applied to mush made from maize. This is true of the French word "milias," or "milliasse"[12] and the Italian word "melica."[13] These words seem sometimes to be applied to a dish prepared from millet or from maize, but not to the grain itself. While Sambon's evidence for the general use of maize in Italy during the sixteenth century is probably based upon a confusion of terms his quotation from Antonio Frugoli[14] (1638) would seem to refer to maize. So far as could be learned the original is not to be found in the United States. According to Sambon, Frugoli used the term "Formentone," which seems never to have been applied to anything but maize.

It is not intended to convey the impression that maize was unknown in Italy before Frugoli's time, but merely that there is no evidence that it was used extensively before the seventeenth century had advanced considerably. That there was as great a gap between the extensive use of maize in Italy and the reported appearance of pellagra, as Sambon would have us infer, is not proved. The whole question is still an open one. The opinion that the coincidental appearance of pellagra and the introduction of maize from America has been proved a myth is hardly, as yet, warranted. It may be a myth, but proof is lacking. If this note serves to keep these questions open in the minds of investigators, the object for which it has been written will have been attained.

(12) Roussel, Theoph. op. cit. p. 349.

(13) Brugnatelli, T. e Kenoni, E.: Di un alcaloide che si trova nella mellica guasta e nel pane di mais amuffito Rendiconti Reale Istituto Lombardo, 1876, page 293.

(14) Frugoli, Antonio: Practica e Scalcaria d' A. F. Intitolata pianta di delicati frutti da servirsi a qualsivolgia mensa di Principi e gran Signori etc. con molti avvertimenti circa all honorato officio di Scalco. Con la liste de tutt' i mesi dell' anno, compartite nelle quattro stagioni. Con un trattato dell' inventori delle viande e bevande . . . . tradutto di lingua Armenia in Italiana. Roma 1631. (From the catalogue of the British Museum).

TUBERCULOUS BLADDER.*

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During the past few years much progress has been made in the diagnosis and treatment of vesical tuberculosis. Such advancement, however, has been due in the main to surgical effort. There still obtains in the minds of many medical men the opinion that bladder tuberculosis is a medical disease and should be placed in the medical column. We want to emphasize the fact that it is a surgical condition and that medical therapeutics have no place in its treatment other than palliative—that medical measures are not only of no therapeutic value, but are of detrimental effect if used in a local way. Internal remedies have no curative value whatever. I must admit that many writers advocate medical measures, but none of them venture statistics of cured cases when there has been a well-defined tuberculosis of the bladder. While bladder tuberculosis concerns the G. U. specialists particularly its associations with other types of tuberculosis demands that a wide knowledge of its manifestations and treatment should obtain not only among specialists, but the medical profession as a whole. While a tubercular infection of the kidney, testicle and prostate is almost always secondary to a pre-existing lesion in some other part of the economy,

* Read before the Section on Surgery of the Southern Medical Association, Hattiesburg, Miss., November 14-16, 1911.

a tuberculous infection of the bladder is always secondary to involvement of some portion of the G. U. tract and never infected directly from any other part of the economy. The mucous membrane of the bladder being non-absorbative resists infection much more than other organs of the genito urinary apparatus. This accounts for its secondary involvement. Being the gateway of the flow of secretions from the kidney downward and the testicle upward if either of the organs become involved its ultimate infection is almost assured. Primary tuberculosis of the bladder is exceedingly rare, consequently its symptoms, diagnosis and treatment must be considered jointly with tuberculosis of the organs necessary to its involvement, Many authorities admit primary tuberculosis of the bladder, but doubt very much any personal observation of the condition. Another class believe bladder tuberculosis secondary to lung trouble. A comprehensive study of the opinions of men who have had wide working knowledge of the disease warrants the assertion that bladder tuberculosis is never primary, never secondary to pulmonary infection per se, and always secondary to kidney, testicle, or prostatic infection. Karo states that he has never observed a single case offering absolutely convincing proof as to the existence of a primary infection of the bladder. Brash in answer to an interrogation states that tuberculosis of the bladder is never secondary to pulmonary infection without kidney involvement, that practically every tubercular bladder is caused by kidney infection, that occasion ally a bladder is infected by an ascending process from prostate or testicle. The percentage is small, being less than five. To corrobate the infrequency of ascending infection of the bladder, Bonney states "that it is worthy of note that tuberculosis of the kidney and bladder in women, among whom there is no opportunity for upward extension" from a prostate or testicle, "is found at autopsy twice as often as in the male." Kretschmar states, "personally I never saw a case of tuberculosis of the bladder that was not secondary to either the kidney or other parts of the genital tract." Leonard Freeman, who has probably operated for tuberculous kidney as often as any man in the States says, "I have never seen a case of tuberculosis of the bladder that did not have its origin in the kidney. Such cases may occur, but are extremely rare." Bransford Lewis, states in answer to an inquiry that almost all cases of bladder tuberculosis are due to kidney infection. I have elaborated very fully the whole of infection of the bladder to emphasize the following: First, that the infection is so universally from the kidney that we must look there for the primary cause of bladder tuberculosis in order to institute proper treatment. Second, that it is never secondary to tuberculosis of other parts of the body unless there is infection of some part of the genito urinary tract. Third, that the treatment must not be primarily of the bladder, but must be directed to the part of the genito urinary tract involved. Fourth, that statistics demonstrate that in more than 95 per cent of bladder tuberculosis the kidney is at fault. The eruption of tuberculosis in the bladder manifests symptoms very characteristic. It usually occurs in the young. If a male a history of masturbation is often ascertained, a personal history of enuresis in childhood and a family history of tuberculosis. It is a regretable fact that a large per cent of these cases give a history of a continued bladder trouble, having been subjected to all kinds of local care, such as irrigations, injection, paracentisis and tonical applications through the cystoscope. I mention a common statement, "went to the hospital, doctor used a light and burned the ulcers with silver nitrate." Another more frequent, "go to a high dry altitude, spend a few weeks, rest, get built up and you will soon be well." We believe in a young adult a gradual increase in the frequency of urination, blood in the urine one or more times, no history of venereal disease, is a syndrome suf-

ficient to warrant a suspicion of tuberculosis of the bladder. The first indication of urinary disturbances is a gradual increase in the frequency of urination, later there are nocturnal disturbances, then appearance of blood in the urine. There is pain in the hypogastric region, polyuria, vesical tenesmus, urination painful and more and more frequent, and frequently a history of having been sounded for stone. The symptoms are very suggestive of a backward extension of an acute gonorrhea, that is there is a desire to void urine without any degree of satisfaction after emptying the bladder. There is also a history of a partially filled bladder offering relief while a filled or a completely empty bladder brings forth distress. Many times the symptoms indicate bladder disease when the actual lesion is in the kidney. Inherited tendency toward tuberculosis is suggestive of the nature of the condition. On account of the co-existing renal and vesical tuberculosis I detail briefly the symptoms of renal infection. Frequency of urination, change in character of urine, pain in the kidney, desire to urinate the same both day and night, cloudy urine, sudden hematuria, slight temperature, smptoms exaggerated by exertion. Note the identical symptoms as compared with tubercular cystitis. Every cystitis that is not gonorrheal, the result of instrumentation, stone or urethral stricture should be regarded as tuberculosis until demonstrated otherwise. In diagnosing a tuberculous bladder we must consider frequent voiding of urine seen in the young adult, nocturnal in character, particularly when no history of gonorrhea is obtainable, as suggestive of either kidney or bladder tuberculosis. Indeed this symptom is adequate evidence to consider the manifestation tubercular until proved otherwise. It is well known that irritable bladder infected secondarily is the primary and not infrequently the only symptom of kidney tuberculosis. Hemorrhagic urine is very suggestive, but malignancy, tumor, malaria, and scurvy contribute to bloody urine and must be considered. Pain and enlargement are of little diagnostic aid, being not infrequently seen on the unaffected side. The presence of tubercle bacilli offers the strongest corrobative evidence. If we suspect tubercular kidney trouble and microscopic examinations show no pus present we can rule out infection of the G. U. tract. Even with many symptoms manifest it is quite apparent that the essentials for an exact diagnosis are X-ray, cystoscope or segregator and microscope. By means of the X-ray we are able to determine the presence or absence of stone with reasonable certainty. The cystoscope comes efficiently into play for a positive diagnosis of bladder tuberculosis and it is through this medium in the main that we are able with the aid of the microscope to differentiate the kind of infection and the organs involved. With these two aids diagnostic at our command in competent hands we should experience little trouble in arriving at a positive diagnosis. Failure to find the tubercle bacilli by means of the microscope is not positive proof of a non-tubercular condition. Animal inoculation should always be instituted in the doubtful cases for the test is often followed by positive results. Bladder disturbances not traceable to any well defined cause should be regarded as suspicious of bladder tuberculosis. Tuberculosis bladder is to be differentiated from stone first by absence of passing renal calculus, the more rapid increase of nocturnal frequency, day and night frequency about the same in contra-distinction to calculus disease, and increasing manifestations of a contracting bladder. Bryson calls special attention to bladder infection from infected seminal vesicles, stating that the mimic cry of calculus disease is so close as to frequently tempt the most careful to the highly injurious, even dangerous instrumentation. When determining the conditions for operation Necker states that a negative opthalmo reaction with evident tuberculosis of one kidney, even though its mate is functionating normally, is a bad sign. His four cases terminated fatally. We must

consider this sign a contra-indication till a further study demonstrates otherwise. However, pronounced tuberculosis of one kidney with incipient infection of the other kidney, the last mentioned functionating with a positive ophthalmo reaction admits of operation. Albuminuria unless excessive does not contra-indicate interference. Advanced pulmonary tuberculosis, where the process is active and extensive, bars operation. When the condition is inactive the removal of a tuberculous kidney frequently renders the outlook more favorable. Early diagnosis and early treatment is as applicable to bladder tuberculosis as it is to appendicitis if success should crown our efforts. If it be surgical it is so at the first manifestation, hence there should be no delay palliating with medical measures. Karo's conclusion as to treatment is characteristic indeed. He emphasizes that the treatment of tuberculosis of the bladder must be directed to other organs, particularly the kidney, and not the bladder per se. He states, "in cases where tuberculosis of the bladder has been fully developed the prognosis will depend upon the possibility of removing the diseased kidney. Should the other kidney be sound or able to functionate, the diseased kidney must be removed at once, even if considerable portions of the bladder are affected. We have been convinced that by nephrectomy even an advanced case of vesicle tuberculosis will heal without any special care." Surgical treatment is not only of advantage in the far advanced cases of bladder tuberculosis, but is demanded in all cases of bladder infection if a cure is to be obtained. Bryson, as late as '93, discussing treatment, says "our main reliance must be general treatment, climate, diet, anti-tubercular remedies and avoidance of cold and heat. Drainage is not beneficial, perineal section means infection and obstinate fistula, supra pubic incision invites hernia." He concludes: "On the whole, surgery offers little for these patients." How very different this picture. Bransford Lewis, in Keen's Surgery, states: "From the writings of many authors it would seem that local curative measures should receive but scant attention, or should be avoided. Dependence must be put in climate, supportive measures and surgical interference." It is fortunate that the cloud of pessimism that has dominated this subject, "and doomed the patients so long," is lifting and that feeling of hopelessness participated in by both the profession and the people is being replaced by a more hopeful one. Until lately, to reserve surgery as a last resort in vesical tuberculosis was the custom. Sentiment has undergone a change. Based on experience with nephrectomy, in consideration of one side kidney tuberculosis, removal of kidney was advised with the expectation that it would be followed by restitution of the bladder to health, but later observations have led to the still more radical conclusions, "that even though both kidneys are affected, the one badly, the other slightly, the removal of the worst one is likely to be followed by desired relief to the bladder, if not also to the other affected kidney." Our deductions are that with a given case of bladder tuberculosis our only recourse is surgery, but not surgery of the bladder, but surgery of the organs primarily involved. Then if tuberculosis is not primary in the bladder the treatment resolves itself into the surgical care of the organs involved. The question then arises what organs must be involved in order that we may have a tuberculosis of the bladder. The answer must be made from the deduction of late observers. The infected organs necessary for a bladder tuberculosis are prostate, testicle or kidney. If the testicle be involved, castration drainage of the bladder and tuberculin constitute the treatment. If the prostate is involved, enucleation, drainage and tuberculin are our resources. If secondary to kidney nephrotomy or nephrectomy must be done. We state in brief the technique. An incision through the superior lumbar triangle gives ready exposure to the kidney. We should cautiously

avoid injuring the inguinal and hypogastric nerves. Care should be exercised not to incise the pleura and if done it should be immediately sutured. I am inclined to think that the prone position is conducive to this accident. If the condition does not permit of a radical operation nephrotomy is done and drainage instituted. Many advanced cases are rewarded with marked relief from this simple procedure. If nephrectomy is permissible, the technique carried out by Oschner is easy and simple. When the kidney is small, deliver and ligate the pedicle. He more often applies forceps than ligature to the pedicle. It is thought best by most operators to leave the ureter because of increased danger and extent of operation. Phenic acid injected into the ureter is of significance. Suture and drainage conclude the technique. Concensus of opinion is that the administration of tuberculin after nephrectomy is a very valuable adjunct in the treatment of vesical tuberculosis. After nephrectomy in severe cases it is sometimes necessary to relate to curetment of ulcers, excision of portions of the bladder and cystotomy. In the far advanced cases it may be necessary to exclude urine from the bladder after nephrectomy. This is best accomplished by diverting the urine from the kidney to intestine by implanting ureter therein after the method of Coffey, or by making an opening in the kidney, instituting a tube, funnel and urinal. The result following either method are immediate bladder repair and cessation of all bladder symptoms. Even when surgical care instituted, carefully regulated hygenic living in the open air, rest food selected according to the patient's digestive capacity, must be employed if the best results are to be obtained. H. Cabot thinks that the considerations of mortality should have a minor place in this serious condition. He regards an operative death not a worse alternative than continued existence. He believes that surgical interference is indicated in the most desperate cases. Even if the death rate is one in three the achievement is worth while. It is only the man who has seen a fatal termination of tuberculosis of the bladder who is able to depict the horrors and intense suffering of this sad state.

I have quoted freely from many authors to whom I give due credit.

A REVIEW OF A SERIES OF OPERATIONS FOR ALL FORMS OF APPENDICITIS

By EDWARD G. JONES, M.D.,
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This paper relates to 143 consecutive personal operations. The list includes:

1. Sixty-five patients with appendicitis in the acute form, subdivided as follows:

a.	Catarrhal	7
b.	Diffuse without gross extra-appendiceal involvement	25
c.	Suppurative without peri-appendiceal abcess.	6
d.	Perforative and suppurative with abscess	20
e.	Gangrenous	6

2. Thirty-eight with a history of several attacks, but with no acute pathology at operation.

3. Nineteen with no history of definite attacks, but with discomfort or indigestion, or both.

4. Eighteen whom it has seemed permissible to include because they had at least suspicious histories of appendix trouble, but upon whom other abdominal or pelvic operations were done. (These eighteen might properly be included under 2 and 3 above).

*Read before the Southern Surgical and Gynecological Association, Washington, D. C., Dec., 1911.

5. Two with adhesions from previous operations done by other surgeons.

6. One with a malignant cecum.

7. Five (included above) for closure of fistulae when the appendix had been left.

MORTALITY.

One patient died, being practically moribund when simple drainage, without other intervention, was instituted. In no instance was operation denied the patient because of the seriousness of his condition.

In ten of the acute cases there was evidence of quite extensive spreading peritonitis, while in an additional three cases peritonitis was general.

Definite *fecal concretions* were noted in twenty instances, though I believe they were present in a larger number of cases and no memorandum made.

The appendix was *left at operation* in nine of the twenty abscess cases.

Of these nine, three (Nos. 20, 47, 59) required subsequent operations to close the fistulae; one (No. 32) with ordinary drainage has had no subsequent attack; two (Nos. 48, 50) with vaginal drainage have had no subsequent attacks; one (No. 33) has had one or two subsequent attacks with indigestion and general bad health; one (No. 42) has not been heard from.

As to the *condition of the appendix* in class two (so-called interval cases) it was:

Thick and partly doubled in	2 patients
Thick and short in	2 patients
Small, short and anemic in	3 patients
Adherent from base to tip in	8 patients
Adherent in a part of its length in	6 patients
Without apparent pathology in	9 patients
Strictured in	2 patients
No memorandum was made for	6 patients
Total	37 patients

Respecting the 9 in whom no pathology was apparent, four (7, 43, 92, 113) are cured; one (25) whose bill is unpaid is reported no better; three (34, 110, 125) are not in good health, but the attacks of colic are cured; one (89) has not been heard from.

For class three (persons without definite histories) the condition of the appendix was noted as follows:

Stricture in	2 patients
Definite adhesions in	7 patients
Pathology doubtful in	7 patients
No information about	3 patients
Total	18 patients

Respecting the 7 whose appendix pathology was doubtful, 2, (18, 78) were only mildly benefited; 2 (58, 108) are improved of indigestion, constipation and flatulence, but are not entirely well; 2 (62, 115) are cured; 1 (68) has not been heard from.

The *first attack* is reported to have occurred in these patients as follows:

In first decade	4 %+
In second decade	35 %+
In third decade	40½%+
In fourth decade	15 %—
In fifth decade	5 %—

The youngest patient was nine years old, the oldest fifty; the average was 23.8 years. (The above list excludes persons operated on for other troubles and those who had no definite attacks.)

The age at time of operation was:

In first decade	2.6%+
In second decade	17. %+
In third decade	54. %—
In fourth decade	21. %+
In fifth decade	5. %+

The average age was 26.4. The youngest patient was ten and the oldest fifty. (This also excludes same as previous table).

Exclusive of patients operated on at the same time for other troubles, 64 per cent were *males* and 36 per cent *females*.

Information is at hand respecting any *family predisposition* on the part of 63 patients.

Forty-eight deny attacks in their families, including uncles and aunts; five report an attack for an uncle or an aunt, four for a sister or brother, one for uncle and brother, one for one brother and one sister, one for a daughter, one for a son, one for her mother, and one for two aunts, two uncles, two brothers, one sister, father, and mother.

For 93 patients *constipation* was noted to

precede the attacks usually in 51 instances; 10 patients here habitually constipated; 4 were sometimes constipated preceding attacks, and 28 did not notice that constipation preceded the seizures at all.

Only 7 persons out of 79 noticed that *diarrhoea* preceded the attacks; and in 5 of these 7 patients its occurrence was variable, they having experienced several appendix attacks.

Of 85 patients, 22 noticed that a *heavy or injudicious meal* preceded the attack; 15 thought at first that dietetic errors were responsible for the trouble, and 6 stated that sometimes this was so and sometimes not.

Fourteen patients thought they had an undue amount of *mucus in their stools* when they came to operation. They were cured with four exceptions. Of these four, two were operated on during acute attacks, while it is possible that two may have been suffering from mucous colitis, or some overlooked pathology, and not appendicitis, for they remain neurasthenics, and still complain of discomfort, although practically typical histories were given by them and one had a strictured appendix.

Eleven of the patients with definite seizures thought that some *unusual physical effort* like straining, lifting, jumping, etc., initiated the trouble. One gave a fairly trustworthy account of running against the corner of a table just prior to the onset of abdominal pain.

Of the acute cases, 1 was operated on at the end of 10 hours; 3 about the end of 24 hours, two in 36 hours, 6 in 48 hours, 8 in 72 hours, 7 on the fourth day, 5 on the fifth day, 2 on the sixth day, 9 on the seventh day, 1 on the eighth day, 2 on the ninth day, and 5 on the tenth day.

The earliest opening of an abscess was at the end of the third day. The earliest gangrene was at the end of the second day.

I have not been able to connect the attacks with any suggestive definiteness with *tonsilitis*, or *rheumatism*, or *typhoid fever*. Quite a number of the patients had had one or more of these diseases, but the number is not suspiciously large, and apparently these troubles had no bearing upon the incidence of appendicitis. One patient (77) had acute tonsilitis at the time the abdominal pain came on.

Pain was the *first disturbing symptom* in all the patients (about whom a note was made) who suffered definite attacks with the following exceptions; three say nausea appeared first, one says nausea and a chill, and one says a chill.

Forty-six of 93 patients say the pain came on *suddenly*, and 47 say it appeared *gradually* —though it is evident that different persons will attach a different significance to the word "sudden" or the word "gradual."

Twenty-eight of 75 patients say the first pain was *general* over the whole abdomen; 23 say it was about the *navel*, 10 in the upper *abdomen*, 8 in the *lower abdomen*, and 6 in the *lower right abdomen*.

More patients describe the pain as settling in the right lower abdomen about the twelfth hour than at any other time; the next most favorite hour is about the twenty-fourth, and the next about the sixtieth. It is apparent that the patient's opinion on this point is unreliable since the pain is frequently by this time obscured by opium and its shifting of position may not be noticed until the physician directs attention to the change.

Of 80 patients, 75 per cent *required opium* for the pain.

Of 69 patients 87 per cent say they had *nausea or vomiting*, or both, following the appearance of the initial symptoms. It is usually difficult to discover whether the nausea is due to the attack, or to the opium or other medicines commonly given.

Forty-two and a half per cent of the same patients describe a *chill or rigor* during the onset (not after abscess formation).

Of 39 patients reporting on this point, 83 per cent who had experienced several seizures say that they became *more severe;* 81-2 per

cent say they became *less severe,* and 8 1-2 per cent say the severity was *about the same.*

APPENDICEAL INDIGESTION.

Fifty-five out of 94 of these patients had *definite troublesome indigestion with flatulence or constipation or both* at the time of operation.

Sixteen of the 55 belonged to class three (persons presenting no history of definite attacks); and of these 16 quite a number sought relief from indigestion rather than from appendicitis. They had so complained for from 1 1-2 to 15 years. All these 16 report their indigestion better (usually cured) except two operated on too recently for a report, and two from whom no report has been received. Some of the results in this class have been remarkably gratifying, patients writing that they have gained from ten to thirty pounds and eat anything with comfort. Perhaps half of this list had had a diagnosis of stomach ulcer from other physicians; and in three instances the pyloric and gall-bladder region was explored by me before the appendix was sought.

Twenty-nine of the 55 had had from two to twenty or more attacks, covering periods varying from one to eight years. Of these 29, all report the indigestion better except 127 and 132 (operated on, too, recently); No. 13, a confirmed neurasthenic, who may have mucous colitis, but whose appendix was strictured; No. 19 whose indigestion antedated the appendix trouble, and No. 95 whose continued symptoms I do not explain.

Of the remaining 10 (of the 55) six were operated on during the first known attack, and the presumption is that their indigestion was not due to the appendix trouble (it is significant, however, that all 6 report their digestion improved, and 3 of the 6 report constipation and flatulence improved); for 2 (of the 10) the history is incomplete; for the remaining 2 the history is also incomplete, but 6 and 9 attacks, respectively, were experienced, and both patients report their indigestion better.

In a word practically every person whose indigestion could, by any reasonable interpretation of the situation, be etiologically connected with the appendicitis was cured of that ailment.

Thirty-nine of the 94 denied troublesome indigestion.

Twenty of the 39 came to operation during, or a few weeks after, the first known appendix trouble; an additional 10 came to operation within twelve months of the first known onset; about $\frac{1}{3}$ I have no information; the remaining 6 had suffered from four to twelve attacks, covering periods varying from two to six years, and nothing explains their escape.

Replies are at hand as to the *general health* of 87 of these patients. Ten were operated on too recently for information to be of value; 69 say their general health is better; 1 says it is the same; No. 33, whose abscess was opened without removing his appendix, says he is slightly improved; No. 35, whose bill has been due and unpaid for two years, says she is only slightly improved; No. 13, a confirmed neurasthenic (who gave a history, however, of definite attacks, and who had a strictured appendix, and who has been referred to as a possible subject of mucous colitis), is worse; No. 19, who had a very annoying indigestion before operation for acute appendicitis, has more aggravated indigestion now; No. 34 has been confined since and says her general health is worse on account of pelvic trouble; No. 104, who had a gangrenous appendix, reports her general health impaired without apparent cause.

Sixteen patients answered that they have a *numb area* near the scar. Ten of the 16 had vertical incisions, and the numb area is on the left; three had oblique incisions and the numb area is on the right; in 3 instances the direction of the incision is not known and the numbness is described at the "bottom" in 1, on both sides in 1, and on the right in 1.

Seventeen patients complain of some *pain or discomfort* in the appendix region. All

these were more or less acutely infected cases whose present discomfort may reasonably be explained as due to adhesions (or to the appendix remaining in No. 33), except in case of 5 persons, 2 of whom are neurasthenics and may have had other overlooked pathology (previously referred to); for the discomfort of the other 3 no explanation appears.

Six persons say that a *hernia* exists in the wound. I am inclined to think that a hernia is present in more than six instances, because in the average drainage case attention was directed to the securing of ample drainage with very little attention to the prevention of subsequent hernia.

These patients have all been inquired of to discoverer if *any unfavorable symptom* has developed which was not present prior to operation. Two report that they are weak and nervous from overwork; 1 has been operated on since for cholecystitis, 1 is now suffering from the menopause, one has fissure of the anus, one is troubled with an unexplained diarrhoea, and 1 complains of weighing ten to fifteen pounds less from no apparent cause.

In two girls about sixteen the abscess was drained per vagina with excellent results. In one instance (a male) preparation was being made to drain per rectum when the abscess emptied itself spontaneously by this avenue.

One patient was known to be pregnant at about the tenth week. Operation was done because of several previous attacks and because of appendix warnings at the time. Her pregnancy was not interrupted.

During this period one abscess in the abdominal wall at McBurney's point was opened. The patient was a child six years old. There was no history of trauma and no known infection elsewhere in the body. The abscess lay underneath the external oblique. The peritoneum was not opened.

A perinephritic abscess was also drained in a boy of twelve. It was very highly probable that a month prior to my seeing him he had suffered an appendix attack, and this view is borne out by a report that he has abdominal trouble of a suspicious nature since.

Operation was declined in three instances in the belief that the patient had typhoid. Such developed to be true in case of two of the patients, while the third probably had tuberculous peritonitis. The leucocyte count was a deciding factor in all three cases.

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BENIGN TUMORS OF THE STOMACH*

By EDWARD A. BALLOCH, M.D.,
Washington, D. C.

Benign growths of the stomach are comparatively rare, yet the aggregate of those reported is large enough to compel us to consider them as factors in the diagnosis of intra-abdominal disease.

All varieties of benign growths have been reported—instances of myoma, lipoma, adenoma, fibroma, myxoma, lymphoma, papilloma polypus and cyst. Indeed, one observer reported what he thought was an osteoma of the stomach, but which proved to be cartilage with spicules of bone interspersed.

According to their nature these growths may originate from one or another coat of the organ. They seldom give rise to symptoms unless they project into the stomach, or are so situated as to give rise to obstructive symptoms. Naturally, pyloric growths come in the latter category. A small growth in the pyloric region will cause more trouble

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than a larger one elsewhere in the stomach. For this reason none of the pyloric growths reported has been very large.

The main question of interest in connection with these growths is that of diagnosis. No one reporting a case seems to have made a correct diagnosis. In every instance the growth has been mistaken for something else. With pyloric growths the suspicion has been that the obstructive symptoms were due to malignant degeneration. In the case of growths elsewhere in the stomach they have been referred to the kidney, the intestines, the omentum or to the pelvic organs.

Spencer's case will illustrate this point. The patient was a hospital nurse, forty-eight years of age, who had suffered from abdominal troubles for some time. The symptoms were referable partly to the stomach and partly to two movable kidneys. At the first operation he fixed the right kidney and pushed the left one into place. How he expected it to stay there he does not state. The symptoms were not relieved, and a second examination showed two reniform tumors, one the left kidney and the other lying over the promontory of the sacrum. This latter tumor had been discovered by Mr. Barling at a previous examination, but had been overlooked by the operator at the first operation. At a second operation he fixed the left kidney and found the second tumor to be in the stomach. He opened the stomach and found it empty, but the mucous membrane on the posterior aspect was rugose and pushed forward. It moved freely over a solid tumor. He split the mucous membrane and shelled out a fibroma weighing 500 grams.

I desire to report two cases of fibroma of the stomach, one a personal case and the other presented through the courtesy of Dr. William A. Jack, Jr.

Dr. Jack's patient was a colored woman, sixty-three years of age, who first entered the Freedman's Hospital in March, 1910, complaining of an abdominal growth. She was sent to the gynecological ward, where a diagnosis of ovarian cyst was made and operation advised. She refused operation and went home. She returned shortly afterward upon the advice of a physician who had been called to see her during an attack of severe and protracted vomiting. He had made a diagnosis of intestinal obstruction. This time she was sent to the surgical ward and came under the care of Dr. Jack. The points of interest in her history were that the growth was first noticed thirteen years before. There had been occasional vomiting spells, usually from six to twelve months apart. No pain or inconvenience from the tumor. Recently the attacks of vomiting had become more frequent. The tumor had increased in size during the past year and the patient had lost weight, probably because of the inability to retain food. Upon examination a tumor was found in the right lower quadrant. The mass was freely movable and could be pushed from the ribs to the pelvis. To the palpatating hand it had a fluctuating feel. There was no pain on pressure or on moving the tumor about. Dr. Jack's diagnosis was omental cyst. Operation was done on April 22, 1910. The growth was found to be in the anterior wall of the stomach, involving the muscular coat. It did not project into the stomach. It was easily enucleated. The pathological examination by Dr. Van Sweringen showed it to be a fibroma.

My own case occurred in the person of a woman, fifty-six years of age, unmarried. Family history negative. The only item of interest in the personal history is that she had a severe fall twenty years ago. In attempting to hang a picture she had placed a chair upon a table. While trying to stand on the chair it slipped and she fell heavily, striking her left side against the edge of the table. The fall was followed by pain and soreness in the left side, which gradually disappeared. For some time she has had vague dyspeptic symptoms, principally pain and nausea. The pain is worse after menstrual periods. In December, 1910, she first

noticed an enlargement of the abdomen. This has increased steadily and, at the same time, the pain has grown more severe and more constant.

Upon examination I found a mass in the lower left quadrant of the abdomen. This mass had the general size and shape of a kidney and could be pushed into the left kidney region without difficulty. When pressure was removed, however, it resumed its original position. With the history of a severe injury to the left side and the presence of a somewhat reniform tumor I was confident that I had to deal with a wandering left kidney, so confident, in fact, that I neglected to examine her as thoroughly as I should have done, and sent her to the hospital for operation. After she was anesthetized and on the operating table I made a further examination. To my amazement I could push the mass all over the abdominal cavity. It could be made to go into any quadrant and had a wide excursion up and down. Besides, under the anesthetic I could palpate both kidneys in position. After this examination I fancied that I had to do either with a uterine or ovarian growth with a long pedicle or with an omental tumor. At all events I was spared the chagrin of making the usual kidney incision, and exposed the growth through a median incision. The tumor presented as soon as the abdomen was opened. It was covered by the omentum, and had numerous large bloodvessels coursing over its surface. After separating the omentum the growth was found to come from the greater curvature of the stomach, nearer the cardiac than the pyloric end. The general appearance of the growth was that of a sarcoma. Accordingly it was excised with a liberal margin of stomach wall all around. The resulting gap in the stomach was sutured and the abdomen closed. Recovery was rapid and uneventful. The dyspeptic symptoms disappeared after the removal of the tumor, and she has been in good health since. Dr. Van Sweringen examined this growth also and pronounced it a myofibroma. His opinion was confirmed by several other pathologists.

These two cases illustrate very well what seems to me to be the main diagnostic criterion in these cases, namely, the great mobility of these growths. When they are attached to the greater curvature, as many of them are, the range of their excursion is not limited. They can be moved anywhere in the abdomen. This should serve to distinguish them from movable kidney and from pelvic growths. This characteristic is shared, however, by intestinal and omental growths, and I know of no sign that will enable us to say that a given tumor is gastric rather than intestinal or omental unless perchance the accompanying symptoms should indicate the one rather than the other.

So far as dealing with these growths is concerned, there is nothing particularly difficult in their removal. If one suspected malignancy he would naturally remove a wide area of stomach wall in the effort to get beyond the area of malignancy.

Fenwick and Fenwick, in speaking of fibroma of the stomach wall, say: "We have not been able to find a single case in the whole of literature where a large fibroid tumor of the gastric wall was above suspicion of malignancy."

I am inclined to share this opinion. Certainly the macroscopic appearance of the growth in my case was that of a sarcoma, and in spite of the favorable report of the pathologist I shall await the final outcome with interest.

SURGERY OF THE INTESTINES, WITH REPORT OF FOURTEEN CASES.

By E. M. PRINCE, M.D.,
Birmingham, Ala.

(Concluded from Preceding Number.)

Illustrating some points mentioned in this article, I wish to report the following cases:

1. Mrs. J. P. was brought to the hospital complaining of pain in the lower abdomen. Past history was negative up to an abortion, several months before I saw her, but since that time she had run a septic temperature, had lost much weight and strength. She was about 5 feet 2 inches tall, very much emaciated, very pale and sallow; her eyes had a yellowish tinge and tongue coated. The physical examination was negative, with the exception of a large, tender, immovable mass in both inguinal and hypogastric regions, and very tender on palpation. On vaginal examination the mass was larger on the left than right, and movable. Her temperature was running 99-102, pulse 120, W. B. C. 18000, hemo. 60 per cent and blood pressure 130. Her urine contained albumin, but no casts. A diagnosis of a double pyosalpinx was made and an operation advised.

The abdomen was opened and dense adhesions were found. The condition of the patient prevented the removal of the tubes, but proper drainage was placed deep in the pelvis and the patient was put to bed and placed in Fowler position. Her condition remained fairly good for forty-eight hours, the temperature ran high, the bowels moved freely the next day and she seemed in a fair way for a smooth convalescence. On the fifth day she developed a fecal fistula and on the seventh day the necrotic end of the colon was seen in the drainage tract. By making gentle traction on this the greater part of the transverse colon was removed, which was completely detached in every direction from the surrounding structure. This was followed by quite a large quantity of liquid feces. From this on she ran almost a normal temperature and pulse and gained in strength. The fistula continued to discharge and the dread of going back into the abdomen to correct this was ever present. About one month from the time of the first operation we opened the abdomen, which was found to be full of adhesions. It was out of the question to get the ends of the colon together, so the distal end of the ileum was anastamosed to the descending colon by invagination, a method which was original with me. The pelvis being deep, it was impossible to get into it to place a button or to suture the ends together. I had a very long dressing forceps passed into the rectum and punctured the descending colon about fourteen inches above the anus, a loop of gut was then seized and pulled through the opening, which had been enlarged by opening the blades of the forceps. This loop was pulled out of the anus and sutured to the margin with silk and the loop cut, permitting drainage from either end. Drainage of the peritoneal cavity was by a cigarette drain through the abdominal incision.

The patient made a rapid recovery, and while she is having from five to six movements of the bowels daily and they are always liquid in character, still she is rapidly gaining in strength and is quite happy. The point of most interest to me in this case was the cause of the complete sloughing away of the transverse colon. We could, of course, attribute this to the destruction of the blood supply during the operation, but then we had free bowel movements after the operation. Another interesting point is the resistance often shown by a very frail body and the wonderful things

NOTE—X-ray pictures made by Dr. Jno. H. Edmondson, Birmingham, Ala.

nature can do to preserve the life of a patient.

2. B. B., age 24. Twenty hours after injury to the intestines, only one perforation by a stab wound. The abdomen was full of fecal matter. W. B. C. was 33000, showing excellent resistance. The injury was repaired with silk sutures, the abdomen drained and the patient made a nice recovery.

The urine was loaded with albumin and casts. The time since receiving the injury was of interest, showing that if we will use the Fowler position with the Murphy drip and make no attempt to move the bowels, many of these cases will recover.

3. L. C. A. Came to me with a fecal fistula of one year's standing, following an operation of appendicitis performed in Denver, Colo. He had gone to Denver on account of tuberculosis of the lungs, and while there had an attack of appendicitis. He was operated upon, and on account of distention and lack of bowel movement, the surgeon pulled up a loop of gut and sutured it to the abdominal wall, opening it and permitting the escape of gas and bowel contents. Since that time he had passed no gas nor had bowel movements, except through the artificial opening. He did not present the appearance of a good surgical risk, and as he was going to return to Denver, I very generously suggested that he have the second operation performed by the same surgeon, but he refused. He had a dry cough, the lungs were very much crippled, although the tubercular process seemed to be in a quiescent stage. He had a mitral stenosis. The urine was negative, W. B. C. 10000, hemo. 70. The question to be considered in this case was, first, if he was physically able to undergo an operation; second, if we had a mechanical obstruction in the distal end of the gut and, third, if the gut was able to handle the fecal current if we anastamosed the two ends. Non-use would very likely cause an atrophy of the muscular coat, and perhaps very materially interfere with the peristaltic action. We got in communication with the surgeon who did the appendectomy. He seemed to fear that there was a mechanical obstruction, and said we had better let the man alone, "that he was alive now," and he would not long be so if we attempted an anastamosis. We informed the patient of the risk, but as his life was hardly worth living in that condition, he agreed to the operation. On August 2, 1910, we inserted one blade of a forceps into the distal portion of the gut and the other into the proximal end, closing these that they might cut into the two lumens, making a direct channel for the fecal current to pass through. On the fourth day the forceps came away and on the fifth day he had a small movement from the rectum, which was the first in over a year. The fecal drainage continued through the old tract, but he had a normal movement every second day. This proved that the lumen of the gut was patulous and was capable of handling the fecal current. Several attempts were made to induce the old fecal fistula to close, but without success. The patient gained much in weight up to December 7, 1910, at which time we thought best to do a radical operation. The abdomen was opened, an end to end anastamosis made. A drain was left in the abdominal cavity. His convalescence was uneventful and he had gained from 117 pounds to 138 before he left for Denver. The opening into the intestine was found to be in the lower portion of the ileum.

4. L. A., woman, age 47, was brought in with an intestinal obstruction on the fourth day. She was vomiting fecal matter. Was badly distended, pulse 125, temperature 102, W. B. C. 16000. Urine was negative. She was carried at once to the operating room, the abdomen opened, and a volvulus of the middle third of the ileum found. The loop had become gangrenous, 18 inches was resected, getting well on either side of the gangrenous area. She got salt solution during the operation. The patient made a rapid recovery and left the hospital on the sixteenth day.

5. Complete extirpation of colon. Mrs. R. M., age 48. Always healthy until 1905, at which time she said she was operated upon for appendicitis and a right-sided pus tube. In 1906 she was again operated on for a hernia in the appendicular scar. I first saw her in August, 1909. She had been vomiting for some days and had not had a movement from the bowels for more than a week, in spite of the fact that she had taken 15 grains of calomel, oil, pills, salt, etc. Heart and lungs were negative, temperature 99 2-5, pulse 120. A mass was made out in the left ovarian region, which was tender on palpation. W. B. C. 18000, R. B. C. 4000000, hemo. 85. Urine contained a few granular casts, examination per rectum was negative. A diagnosis of obstruction of the bowels, due to adhesions, was made. The abdomen was opened and quite a little fluid found in the cavity. A large pus tube on the left side was found, also many adhesions on the right side. I removed the left tube and ovary, enlarged the incision and found the caecum ascending and transverse colon practically gangrenous, and the descending colon was very unhealthy. The ascending and transverse colon was so soft that the finger could with little force be pushed through the wall. The colon seemed to be twisted on itself and held by adhesions. I decided that the best policy would be to remove the entire colon. This was done, and on account of the very desperate condition, the end of the ileum was brought through a stab wound in the abdominal wall. Drains were placed deep down in the pelvis. Saline solution was given by hypodermoclysis during the operation, also strychnia and adrenalin. Her pulse was 120 to 130 during the operation, although of very poor volume. She was placed in bed in extreme Fowler's position, and strychnia and sparteine was given every three hours. Morphine was used to control pain. Large quantities of fecal matter drained through the artificial anus during the first twenty-four hours. The temperature and pulse came down on the fifth day and she was slowly gaining in strength. She was put on full diet after the eighth day, and on November 10 she was able to be up the entire day, when from some cause the opening ceased to discharge and it seemed as though I would be compelled to operate for another obstruction, but after giving an anesthetic quite a quantity of fecal matter and gas was discharged. We had intended to do an anastomosis between the ileum and what remained of the rectum, but had intended delaying this for another month, but as we had gotten ready for this second operation, we decided to unite these at this time. Many adhesions were encountered, and we soon saw that it was impossible to get the end of the ileum, which we had pulled through the stab wound in the abdominal wall, down to the piece of rectum we had left, so we selected a coil of gut about two feet from the terminal end of the small gut and united this to the small portion of the rectum left at the former operation. We used for this purpose a large Murphy button, as it could be placed much more readily and consumed less time than that required to use a suture at that depth in the pelvis. The patient left the table with pulse of 140. The Fowler position was used for several days. Morphine was given to control pain, and strychnine and sparteine were used for several days. Patient made a slow recovery but was able to sit up in three weeks, and has returned home. She has gained much in flesh and strength. Her digestion being good, she was put on a liberal diet after second operation. With the exception of a diarrhoea her health is perfect at the present time.

One point of interest in this case is that the fecal matter discharged from the artificial anus after first operation was at times solid. Some of our enthusiastic medical men advocating a liberal solid diet during the course of typhoid fever have claimed that "no matter what diet is given, it becomes a liquid and remains so during its passage through the small gut, therefore it cannot, by its irritating

action on the ulcers often found in Peyer's patches, increase the danger from perforation." We know that the most usual location in which we find perforation is a few inches from the ileo-caecal junction, therefore, if food is solid in this location it may cause harm. Had this observation been made some time after operation we might suppose it to be nature accommodating itself to changed conditions. But this occurred on the sixth day and often thereafter.

6. F. P., white, female, age 16. Was brought into hospital three hours after shooting herself in right side of abdomen with a 44 Colt's revolver. She was a very robust young lady and had always been in good health. At this time she was very badly shocked. She was carried at once to the operating room, camph. oil administered and 1800 c. c. of salt solution given by hypo-dermoclysis. The abdomen was opened and the bleeding points in omentum and mesentery found and bleeding controlled. Then a systematic search was begun for perforations of the intestines. At about the junction of jejunum and ileum fourteen inches was so badly damaged that we resetced this. Lower down in the ileum six more perforations were found. In the transverse colon three large holes were torn.

After a few stormy days the patient rapidly improved and left the hospital perfectly well on the twenty-first day.

As saline enemata were not advisable on account of perforation in large gut, hypodermoclysis was frequently resorted to, sparteine and strych. were given every three hours until all shock had subsided. Morphine was freely given. No attempt was made to move the bowels until the sixth day.

7. F. P. W., white, male, age 22. Gunshot of abdomen. This patient was placed on operating table twenty-two hours after receiving injury, which was from a 38-caliber Smith & Wesson revolver, ball entering in left lumbar region. He was in fair condition when he entered the hospital, pulse 128, temperature 103. Abdomen was moderately distended.

A leucocyte count of 20000 was present. Camph. oil M. 20 and hypodermoclysis 1100 c. c. Sal. Sol. begun. The abdomen was opened in the midline and one perforation of descending colon found. Quite a quantity of blood and fecal matter cleaned out and perforation repaired. A large drain was left in, as quite a good deal of localized peritonitis was present. He developed a faecal fistula on the sixth day and had quite a prolonged convalescence, but is now in perfect health. The ball was afterward passed from rectum, it having only perforated one wall of the large intestine.

8. Mrs. J. T. Y., white, female, age 16 years. Volvulus of ileum of four days' standing. Patient was in a very desperate condition, pulse 148, temperature 103, respiration 30 Abdomen very badly distended, vomiting faecal matter. Chest examination was negative except a mitral and aortic stenosis. Urine was negative. White blood count 25000, hemo. 85. A mass could be felt near the umbilicus. She was sent at once to the operating room and saline administered by hypodermoclysis 1000 c. c., camph. oil M. XX and strych. sulph. gr. 1-20 given at once by hypo.

A median incision was made and a gangrenous loop of intestine was found. Fourteen inches resected and a Murphy button used in order to expedite the operation. The gas was permitted to flow out of the intestine before the anastomosis was performed, which I think is a very important procedure, as you in this way relieve the over-distended bowel and give the muscular coat a chance to regain its tone and take part in eliminating the toxic substances from the peritoneal cavity. A drain was left in abdominal cavity. The patient left the table with pulse of 160 and very poor volume.

Her bed was elevated, saline enema given, strych. and sparteine every three hours and

morphine given to keep patient comfortable. She had a few stormy days, but on fifth day she expelled gas from bowels, and an s. s. enema was considered advisable. This was administered with good results. The Murphy button was very carefully looked for, but at the expiration of six weeks it was still in intestines, as will be noted by X-ray picture (Cut No. 1), although she did not experience any ill-effects from it. I instructed her to let me know when she passed the button, but have heard nothing from her.

9. B. W. Age, 3 years. Removed nail from intestine. Was brought to me with history of having swallowed a four-penny nail. We advised doing nothing unless indicated by symptoms. On the third day following the accident the child complained of his abdomen paining very much; became nauseated and vomited quite frequently. The temperature rose to 103 2-5; pulse, 140. Nothing could be learned from examination of abdomen, as he was very fretful and kept abdomen extremely rigid. Had X-ray picture made (cut No. 2), and nail was found in abdomen. We advised its removal. The abdomen was entered through incision in right rectus muscle, and the stomach first examined and the intestine searched downward until nail was found with point firmly embedded in the mucus fold of upper part of ileum. The point was pushed through the intestinal wall, and the head, with a little force, was also brought out. The opening in the intestine was closed with a purse-string silk suture. Lembert suture of cat gut approximating the peritoneal surface. The child's temperature rapidly declined and he made an uninterrupted recovery.

10. O. L. Age, 38. Knife stab of upper portion of duodenum. Was brought in at once after injury. There was only one point of injury, and the abdominal cavity was not contaminated to any extent from leakage or blood.

Incision in duodenum was closed with silk suture, with catgut to bury the silk. Abdomen was closed without drainage. Patient made a rapid recovery.

11. J. W. Age, 28. Negro. Gangrene of ascending colon. Was brought in with diagnosis of obstruction of bowels fourth day. His condition was very bad. Had been vomiting for two days. Abdomen very badly distended; pulse very rapid; temperature 103.

Operation was advised immediately, and patient carried to operating room, where he was given stimulation and saline by hypodermoclysis. His leucocytes were 18,000. Hemo., 60. Urine contained casts and no albumen.

Through a median incision the gangrenous ascending colon was brought into view. As to the cause of this gangrenous condition, one would be at a loss to say; but it was seemingly from an interference with the blood supply to this particular region, as there was no volvulus or other cause for the condition. Six inches was resected, which brought us into healthy tissue on either side. End-to-end anastomosis was made with silk suture, reinforced by catgut, which gave entire satisfaction, although I would now prefer a side-to-side anastomosis if a similar case was presented. The patient left the hospital in eighteen days in good condition.

A diagnosis of appendicitis was made in this case by me.

12. B. N. Age, 30 years. Volvulus of small intestine.

This patient was admitted in very bad condition. On the fourth day from onset of first abdominal pain she was vomiting fecal matter; pulse was very rapid and her general condition did not present a very encouraging surgical risk. She was sent to operating room. Saline by hypodermoclysis begun, together with camph. oil and other stimulants.

Abdomen was opened in median line and a very long loop of ileum found twisted upon

itself and in a gangrenous condition. In order to get into healthy tissue, it was necessary to resect five feet. Murphy button was used. The patient left the table in very bad condition, and for several days it looked as if a few hours would end the story, but on the fourth day she began to improve, and from this time on her improvement was continuous, but slow. Eighteen days after operation, as nothing had been heard of the Murphy button, an X-ray picture was taken and the button still found in the intestine canal, as will be noted in cut No. 3.

One point of interest in this case is that, in spite of the large piece of gut removed, the woman's nutrition has been as good as previous to the operation. She has gone back to her normal weight and is in good health.

13. Young lady. Age, 15. Eleventh day of attack of appendicitis. Examination found mass on right side. At time of operation temperature was 101 4-5; pulse, 120. No vomiting. Rather debilitated from lack of nourishment for past ten days and the effect of the infection. Made incision over the mass and evacuated about one pint of very offensive pus. Sponged the pus cavity out and found the appendix completely gone, it having sloughed off, leaving the opening into the bowel very large and patulius, through which the contents of the bowel were passing. The small bowel was necrotic and almost severed near its junction with the colon, the colon presenting two necrotic areas about the size of a quarter, which had destroyed the peritoneal and muscular coats. In this case all adhesions were broken up and the opening into the large bowel closed. The anastomosis completed between the small gut and the colon. Large cigarette drain left in. Temperature and pulse for next two days ran about 100, when it dropped to normal, remaining so until the thirteenth day, at which time she was taking full diet, and had been having normal

movements of bowels for past nine days. Had been sitting up after eleventh day. On the thirteenth day patient was taken with severe pains near left anterior superior spine of ileum. Temperature jumped to 103; pulse, 140. No pain in upper abdomen and no pain or tenderness on right side. Diagnosed a localized area of pus and made incision at this location. Found pus cavity containing about one ounce of pus. Put in cigarette drain. Temperature and pulse at once dropped to normal, and condition remained fine for six days, at which time she developed an obstruction of bowels, which I supposed was near the ceacum on account of the numerous adhesions at this location. Made a fecal fistula here and let out large quantity of gas and feces. The distention at once disappeared, vomiting ceased, and her condition remained good for about one week more, at which time she commenced to vomit large quantities of fecal matter. Her pulse went up to 160; temperature to abnormal. Her condition looked most unfavorable. I delayed operation for some hours, as I did not know, nor could I surmise, where the obstruction was; but, seeing the end was fast approaching, I decided that it would be an injustice to the patient to permit her to die without another effort to relieve this last complication; so I again had her sent to the operating room. Made a median incision about six inches in length, through which the enormously distended intestines forced themselves. Had to practically eviscerate the patient looking for point of obstruction, but after quite a prolonged search found a constriction of intestine by a band of adhesions, which were broken up. The gas would pass through this all right, although there was distinct ring where the adhesion had been, and the intestine seemed to possess no power of contraction.

Made a puncture with a trocar and let out quite a large amount of liquid feces and gas, and after milking the intestines on both sides of the opening and getting them fairly empty, I thought best to stitch a rubber tube into the opening in the gut, thinking it best to drain at this point until the intestines could regain their power of peristalsis. Throughout the operation we endeavored to protect the intestines with hot, moist towels. Hypodermoclysis, together with strychnine, adrenalin and ergotole, were used. Patient left table with pulse about 180 or more, very weak, and condition bad, but she very slowly reacted. Fistula closed and patient rapidly gained in flesh and strength.

14. J. R. P. Age, 26. White female. Was brought into hospital complaining of pain in abdomen and the presence of a tumor just above the umbillicus.

Her family and past history was negative until the onset of the present trouble, which was about six months previous, since which time she had lost quite a little flesh and suffered continuous pain. About three months before coming under my care she had noticed this tumor in abdomen, and it had increased in size, although not very rapidly. Her bowels were regular, appetite good and digestion fair. She had slept well at night, except when pain was severe enough to interfere. Her menstrual history was practically normal. She was a pale woman, rather thin; intelligent and inclined to be nervous. Her temperature was normal; pulse, 86. Chest was negative. The liver normal in size and freely movable.

A tumor about the size of an orange could be felt just above the umbillicus, which was round, smooth and freely movable, and was not very tender to touch. It did not seem to have any special point of attachment. The kidneys could both be felt in their normal location. No pain over gall bladder region. Spleen was normal. On vaginal examination the uterus, ovaries and tubes seemed to be perfectly normal, and there was no pain on pressure over these organs. The urine was negative. W. B. count, 7,800; hemo., 60.

Several diagnoses were suggested, among which was a tumor of intestine, but an operation was certainly indicated and so advised.

The abdomen was opened in median line, and a round, smooth tumor presented which seemed to spring from the mucous surface of small intestine, as the greater portion of the tumor was in the lumen of the gut, but it had also involved the intestinal wall throughout. A resection was done, removing about fifteen inches of the ileum. Abdomen was closed without drainage.

The patient made a very rapid recovery. It has been two years since the operation. The patient is now in perfect health and has given birth to one child since the operation. She has gained much in flesh. The mass was submitted for pathological examination and a report of sarcoma was made.

15. J. S. Age, 36. White male. Stab wound of anterior wall of stomach. Brought in nine and a half hours after receiving the injury. He had vomited quite a quantity of blood, and much blood was found in the abdominal cavity, but pulse was of good volume and only 110. Temperature, 100 1-5. Leucocyte count, 11,500. Urine contained albumen and casts. Abdomen was entered through median incision and the wound in stomach closed with silk and reinforced with catgut. Patient was given no nourishment for four days. Small quantity water by mouth. Saline enemas every six hours. He walked out of hospital on ninth day, against my wishes, but experienced no ill-effects from so doing.

Note X-ray pictures made by Jno. H. Edmonson, Birmingham, Ala.

INTESTINAL RESECTION.

History—White man; age, 28; quite fleshy and thick abdomen. Pistol shot of abdomen; 41 Colt's revolver used, the ball entering one inch above and to the left of umbillicus. His past history was the usual one in these cases—that is, had been a drinking man for years, and at the time of the present injury was in a drunken condition. The pistol was held so close to the abdominal wall that the clothing caught on fire and the fire entered the abdominal cavity. The patient's general condition was good, being only two hours from time of receiving injury. He had vomited very freely, and a catherterized specimen of urine showed no blood, although it contained much albumen and many hyaline casts.

The abdomen was quite rigid. Temperature, 100 1-5. Under gas-oxygen anaesthesia an incision through left rectus muscle was made. The abdomen was found full of blood, and four large perforations were found in the lower ileum within a space of six or eight inches. We first endeavored to close these perforations, but found in two of them the tissue was completely cooked, and it was impossible for a suture to hold. A resection was then done and an end-to-end anastomosis made, using very fine intestinal silk which is made into the needle. This is far better than threading a needle, as the bend at the needle eye, if you thread the needle, is obviated.

A thorough investigation of the abdominal viscera failed to disclose further injury. A large cigarette drain was left in. The patient left the table in good condition, but temperature rose rapidly to 102 2-5, where it remained for ten days, although in other respects he seemed to be doing well. His bowels moved on the fourth day and abdominal distention became less. He began to take liquid nourishment on the fifth day, and his condition looked most favorable for a smooth recovery, with the exception of temperature and increase in pulse rate. On the sixth day the nurse discovered the ball just under the skin low down in the gluteal muscles. No one could hardly surmise how this could have gotten in this locality, as the two men were on a level, and the ball, unless deflected, should have gone straight through the abdomen. The ball was removed and expected to find the tract infected, thereby accounting for the temperature, but this was not the case, as his temperature continued the same for several days longer. We then noted that he was tender over the left lumbar region upon pressure. Thinking that perhaps there was infection of

the bullet tract high up, we made an incision under cocaine and found post-peritoneal quite a quantity of foul-smelling pus; also found the crest of the ileum fractured by the ball. After draining this abscess cavity his temperature rapidly fell to normal, and he made a nice recovery.

PERFORATED DUODENAL ULCER.

Mrs. L., white woman, aged 29, entered hospital with diagnosis of appendicitis. Patient gave history of poor health for past few years. Typhoid fever several years previous, since which time she had suffered with indigestion. Had never had jaundice, although at this time her sclera was a little icteroid. With this exception, her past history was negative.

History of present attack: Thirty-six hours before coming into the infirmary she had a very severe attack of pain about her stomach. This followed after eating quite freely of oyster stew. She was given morphine freely, which only partly relieved her pain. She had vomited, and no blood was seen in the vomited material. She presented the appearance of a very sick woman. Facial expression was very bad; respiration about normal; abdomen somewhat distended, and she was very tender all over the abdomen, but seemingly more so on her right side under the ninth costal cartilage. Abdomen was very rigid. Her leucocytes were 16,000; hemoglobin, 80; blood pressure, 130; temperature, normal; pulse, 80. A diagnosis of a spontaneous ruptured gall bladder was made, basing this on history of typhoid, indigestion since typhoid attack, slight jaundice and point of tenderness, although it was hard to account for the absence of temperature, and no increase of pulse rate. Operation was advised.

Under gas-oxygen anaesthesia an incision was made through the right rectus muscle. The gall bladder was found much enlarged, and throughout the abdominal cavity lymph and much serous exudate were found. Thinking the gall bladder could not account for the condition present in the abdomen, a further search for the cause revealed a perforated duodenal ulcer. This was very difficult to close, as the tissues around it were very rotten and could hardly be made to hold a stitch, but a thorough infolding of the ulcer with silk ligatures, reinforced by catgut, and stitching a piece of omentum over the area, seemed to guarantee a good result. The gall bladder was then drained and quite a quantity of dark bile found. A deep drain was placed under the gall bladder. Patient left table in good condition. Food was withheld for six days.

Recovery was uneventful, and patient left the hospital in three weeks in good condition, and is now gaining much in flesh and strength, being five weeks since her operation.

THE SURGICAL TREATMENT OF BRIGHT'S DISEASE*

By SAMUEL LLOYD, M.D.

Dr. Edebohls, in the paper which he prepared just before his death, and which I read for him in Chicago in June, 1908, said in his opening paragraph: "When, in 1901, I suggested treating chronic Bright's disease by decapsulation of the kidneys, I placed myself under a moral obligation to report the results after a sufficient length of time had elapsed." And when he said to me on his deathbed, "I hope you will follow up this work of mine, and follow it to its completion, for every word I have said in this paper is 'the truth, the whole truth, and nothing but the truth,'" he placed me under an obligation which I consider so strong that so long as I live and remain in the active practice of surgery it will impel me

* Read before the Southern Surgical and Gynecological Association, Washington, D. C., Dec., 1911.

to study the subject in the same scientific spirit that he brought to its consideration.

Racked with disease, conscious that he had but a few months, possibly but a few weeks, to live, he wrote to every patient he had operated upon, asking for a 24-hour specimen of urine, and, if received, divided it into two or three different specimens, to be sent, initialed only, to as many different laboratory workers, in order that their examinations might be compared, to make sure he was not misled. When no report was received he either visited the patient, or his or her friends, and obtained the specimen, or ascertained when and how the patient died.

In this way he was able to trace all but two of the 102 cases he had operated upon up to the time of his report. As you all know, he died before his paper was published.

His own cases were tabulated up to May 31, 1906. From that time to the time of his death he operated upon six additional cases.

One decapsulation of the right kidney, the other kidney being done later by me.

Three for chronic diffuse nephritis: *a, April,* 1907, at the Post-Graduate Hospital. This patient had anasarca and made a very complete recovery. She has since remained well, and has been through a normal pregnancy without any appreciable kidney lesion. *b, June* 6, 1907. This patient has remained well, has married, and was in perfect health at the time of the last report, October, 1911. *c, February* 14, 1908. Died April 8, 1908. During her stay in the sanitarium this patient showed some improvement in her general condition, passing an increased quantity of urine, with an increased excretion of urea, but she finally died in convulsions.

One decapsulation of the right kidney for chronis diffuse nephritis, *October* 3, 1906, the other kidney having been previously removed. This patient is still living, and urinary examination does not now show any sign of kidney lesion.

One November 6, 1907. Present condition unknown. I may still be able to trace this patient, but at the time of this report have not received any reply to my letters.

In addition to these, I have personally operated upon twelve cases. The results of these eighteen cases show:

Improved	5	27.	7-9%
Died within two weeks of operation	2	11.	1-9%
Died later (unimproved)	2	11.	1-9%
Cured	8	44.	4-0%
Unknown	1	.05	5-9%

Although there are two cases in this series that I class as "operative deaths," I do not believe that either of them was affected in the slightest degree by the operative procedure. One was a redecapsulation, and he died just two weeks after operation. When I performed the first operation, on September 4, 1907, his case seemed hopeless, and I refused to operate unless his family were informed that, in my opinion, he would die on the table. After a careful consideration of all of Dr. Edebohls' cases and my own experience, they decided to take the risk. At this time this young man was 26 years of age, was water-logged; was having from one to two convulsions every twenty-four hours; was apathetic, anaemic, and as unpromising a case as I ever operated upon, with a single exception, which will be reported later. At the operation his kidneys were found to be immense, but so soft and oedematous that I was afraid to handle them. After very careful manipulation I was able to split the capsule, separate it from the kidney and cut it away. After a long post-operative convalescence (five months) he returned home to Massachusetts and taught school at night and occupied a city position in the daytime until after a hard period of unusual mental strain, almost four years later (May 1, 1911), when his oedema and other symptoms returned. He then insisted upon being given the chance of a second decapsulation, and this was done May 2, 1911. His kidneys were found markedly contracted, surrounded by a thick (half inch, at least) capsule, which was diffi-

cult to detach. This capsule was traversed by a large number of small blood vessels that seemed to enter the kidney substance. This would seem to corroborate Dr. Edebohls' theory that the improved condition of the kidney after these operations was due to a new blood supply entering the periphery of the kidney.

At first this patient improved. His general condition was better; he was less somnolent; his urine—which before operation was 875 cc. in twenty-four hours, specific gravity 1010, urea 1.2 per cent; albumen, large amount and with all kinds of casts—increased to 1010 cc., with a urea output of 1.6 per cent on the eleventh day. From this time on his condition gradually declined until his death in convulsions on May 20, 1911. The phenol sulpho-naphthaline test in his case showed 1.5 per cent at the end of one hour, and the same percentage (1.5) at the end of the second hour.

The other case of operative death was the case referred to before. She had had nephritis for a long time. The first urine examination that I have on record was dated November 3, 1907. When she was brought to New York both pleural cavities contained a great deal of fluid. She had both peri and myocarditis, and was having frequent attacks of dyspnoea. In my opinion, this case was too far advanced to be benefited by operation, but she had been seen by Dr. Edebohls in Havana and sent on to New York for operation.

After a long period of observation and treatment by Dr. William H. Porter (whom I called in consultation) and myself, in the hope of being able to improve the heart condition and get rid of the anasarca, a large quantity of fluid was withdrawn from the chest, and, Dr. Thomas L. Bennett having examined her and decided that, if the operation were done quickly and with the patient lying on the side rather than in the usual kidney position, it would be possible for him to give her an anaesthetic, the operation was performed.

First, as to the right side: Here a retrocaecal and extra-peritoneal appendix was discovered, running over the kidney area, and this was removed before the kidney was brought into the wound. The kidney was then decapsulated, the patient turned over and the left kidney operated upon. The whole procedure, in spite of the necessity of removing the appendix and of preparing each side separately, occupied but thirty-three minutes. This patient lived but five days, and died during one of her heart attacks, the urine having increased in quantity, her general condition being improved, and an apparent increase in absorption of the extravasted fluid throughout the body giving hopes of more or less amelioration of her condition. The operation in this case apparently had no effect upon the outcome.

Compared with Dr. Edebohls' statistics, this makes the operative mortality slightly more. In his 102 cases the immediate mortality was 10.1 per cent. In this series it is 11 1-9 per cent, or for the whole 127 cases a little over 10 per cent. This is very different from the mortality given by Dr. Morris Booth Miller in the American Journal of the Medical Sciences, September, 1911, page 369. He says: "Despite an immediate mortality of 30 per cent, and 44 per cent remote (within a short period), it cannot be gainsaid that the results of operative treatment have been other than hopeful."

In referring to the table, it will be seen that our remote mortality in this last series of eighteen cases is, up to the present time, the same as the immediate mortality—11 1-9 per cent. This is a rather striking difference. He does not indicate, however, in any way in his paper from what sources his statistics are derived; and if they are taken from general literature they can hardly be considered as correct, because the mortality must of necessity be much greater in the hands of inexperienced operators than with those who are accustomed to operating upon these cases.

Of the improved cases, one was a decapsulation of one kidney, which was improved, and eighteen months later a decapsulation of the left, with ultimate cure. This patient has been seen within two months and shows no signs at the present time of kidney lesion.

One was a chronic parenchymatous nephritis, improved for four years; redecapsulation and death.

One, a man from Texas, who had an advanced parenchymatous nephritis, with a great deal of hemorrhage, so that he was rapidly becoming exsanguinated, who was operated upon in January, 1909. At the time an exploration of the kidneys showed no cause for the hemorrhage except the intense congestion, no stone or tumor being present. The hemorrhage ceased immediately after the operation. He has gained between twenty and thirty pounds in weight, and has been actively engaged in business since his return home, about six or eight weeks after the operation; but his last urine examination shows a tract of albumen and some hyaline casts; he is, therefore, classed as an improved rather than a cured case. So far as his general condition is concerned, he seems to be perfectly well, but as I believe we should apply Edebohls' rule strictly, he cannot be classed otherwise than as improved. This rule was as follows:

"The urine must remain free from albumen and casts, and the daily urea output be normal (or approximately so) for a period of at least six months following the verification of the disappearance of the albumen and casts, and the patient must be free from the symptoms of chronic Bright's disease from which he or she formerly suffered."

Of the other two classed as improved, one was done during the past summer, and was a man from Baltimore, from whom I have had no urine for examination since his return home. Clinically, he is better, since he has been able to return to business, has no hemorrhages, and considers himself so well that he has been neglectful in supplying me with specimens for examination.

The other, a case of Dr. Arthur F. Chace, of New York, was also done within two months. He had been treated in a neigboring city for a long time, and was finally brought to the Post-Graduate Hospital, but, in spite of all medical treatment, was progressively and rapidly becoming worse. At Dr. Chace's request, I operated upon him, and he was discharged from the hospital December 10, 1911. He still has albumen and casts. His general anasarca, however, rapidly disappeared following the operation, and he has been around the hospital for some time. He is still improving, but the ultimate outcome cannot yet be told. There is no question, however, but that the operation saved him from rapidly impending death.

Miller has said in the article already quoted that "in the majority of cases of the recoveries the physiological cure was complete in from thirty to thirty-five days." This, however, does not correspond with either Dr. Edebohls' or my own experience. Edebohls said:

"That some who are either unable or unwilling to believe in surgical treatment for chronic Bright's disease have explained the immediate good effects of renal decapsulation—the return of color and strength, the disappearance of dropsy, headaches, backaches, digestive and circulatory disturbances, the improvement in the condition and action of the heart and cerebro-spinal centers—undeniable and striking as they are, to the rest in bed for three weeks subsequent to the operation. The fact is ignored or overlooked that many of these patients who were so greatly benefited by operation had already spent months and in a number of instances even the greater part of the year at a time in bed, without experiencing the slightest improvement. The changes in the patient's condition and general health after the decapsulation, on the contrary, are nearly always impressive and in some

cases simply marvelous. The improvement, moreover, is progressive, continuing and increasing even after the patient has left his bed and resumed his place and work in life. . . .

"The cure of chronic nephritis is only started by renal decapsulation, and the element of time is essential to obtaining the full advantages of the operation. In some patients the health of the kidneys is restored in a few months after operation, while in others the same result is reached only after a period of three years."

This statement is confirmed by this last series of cases. One of my patients—operated upon seven years ago, and who spent the night after her operation wandering about the hospital in nephritic delirium, then remaining comatose, with occasional convulsions, for almost two weeks—did not get rid of a trace of albumen and occasional casts until after two years had passed. She is, however, still living and well, and free from all signs of kidney disease.

Another patient, who was operated upon November 19, 1908, and who was rapidly dying in interstitial nephritis, did not show a clear urine report until last spring, and has but just fulfilled the requirements necessary to put him down as cured. His urine examination was practically normal for the first time on May 25, 1911. On December 5, 1911, the urine was examined in another laboratory in order that we might have an absolutely independent opinion, with the following result:

Specific gravity, 1023; reaction, acid; albumen, heat, nitric acid and Esbach's reagent—negative; sugar, negative; urea, 2.3 per cent, 397 grains in 24 hours; indican, normal; microscopic examination—casts, none; crystals, none; epithelium, occasional vesicle cell; blood, none; pus, very occasional pus cell. There were a few microscopic mucus shreds or cylindroids present.

Of the eight cured cases there is very little to be said. One has remained well for seven years, and the last for a little more than six months. To all of them Edebohls' rule has been strictly applied, and the only comment that seems necessary in this connection is on the increased percentage of cures as shown by this series of eighteen cases and the percentage shown in Dr. Edebohls' paper—44 as against 33 per cent. This is possibly only a coincidence, for with a larger number of operations, many of them done with the patient almost in extremis, one may expect to have a larger mortality sometimes than at others.

As this paper is only intended to be a report of the work done in chronic Bright's disease in our office since the publication of Dr. Edebohls' last paper, this is neither the time nor the place for the discussion of the different theories which have been advanced to explain the effects of surgical intervention in Bright's disease. Miller, in his paper, however, has suggested some facts that are worthy of comment, and that, to a certain extent, clarify the situation.

In the first place, he says that "albuminuria is not *per se* an evidence of Bright's disease, though the etiological factors back of it will, in time, if not removed, occasion those tissue changes in the renal substance which characterize that disease." None of the cases, either in Dr. Edebohls' former paper or in this last series, has been done for simple albuminuria. We should not consider that an indication of chronic nephritis. In every instance there has been a disturbance of the general physical condition; an abnormal urine examination, including albuminuria; presence of casts, abnormal specific gravity, and an abnormal urea secretion. In addition to this, the renal function has been tested in the recent cases by the phenol sulpho-naphthaline test, and, according to that test, in the last case operated upon and discharged from the hospital within the last few days, an absolutely fatal issue was indicated. Miller further says:

"Albuminuria may be divided into two classes—(a) where the cause is confined to the kidney itself, and (b) where the responsible factor is systemic. In the first class may be placed (1) local causes, as wounds of various kinds; (2) renal and peri-renal infections; (3) irritations arising from stone or nephritis; (4) malformations and displacements which interfere with normal circulation."

In each and every form of what may be termed local nephritis "the only sound method of relief must be surgical, since, with mechanical causes, we require mechanical measures to accomplish a cure." He considers that unilateral nephritis is due to some local cause, such as he has classified, and then he adds:

"I am familiar with no post-mortem findings which would tend to confirm the suggestion that nephritis is ever one-sided, and that there is no reasonable hypothesis why the systemic causes of albuminuria should fall upon a single kidney."

We must agree in the main with these conclusions, and yet it is an undeniable fact that in some of our cases we have found a unilateral nephritis without any apparent systemic cause, and without being able to determine any local etiological factor.

It still seems to me, therefore, that it is advisable to follow out the practice that Dr. Edebohls and I have adopted in this series of cases—of always decapsulating the other kidney when a nephritis is found on one side without any local apparent reason for the change—for it is reasonable to suppose that occasionally a systemic cause may act primarily on one kidney and the other one become involved later.

There is one other point that should be emphasized in this connection—namely, that we cannot hope by surgery to replace any already destroyed renal tissue. As Porter has said: "The lesions of Bright's disease can never be cured to the eye of the pathologist and histologist, but to the physiologist and clinician the cure of the disease in a physiological sense is both possible and probable."

It seems to me, therefore, that the position taken by Dr. Edebohls remains the correct one.

Tyson, in the New York Medical Journal of July 8, 1911, reported four cases that had been submitted to operation, but was unable to report a cure in any one. Notwithstanding this, he says:

"I claim that the operation is so serviceable in certain instances that it ought to be done more frequently. The conditions which demand it are not far to seek or difficult of recognition. They are simply these: Stubborn persistence of symptoms, causing great inconvenience or danger to life, such as permanently obstinate dropsy, which refuses to yield to the ordinary treatment thoroughly carried out; uraemia, manifested by convulsions or other unmistakable signs, such as intense headache; anuria and large albuminuria, resulting in anaemia and loss of function and strength; obstinate haematuria; perinephritis, with miliary abscesses; hydronephrosis, and pyo-nephrosis."

Renal decapsulation is indicated in all varieties of *chronic* nephritis in the absence of conditions absolutely contra-indicating any surgical procedure.

In this paper I have made no attempt to review the now very extensive literature on this subject. This would extend the limits of the paper far beyond the time allotted me, but I hope to be able to take up this part of the subject at some later date.

ADENOIDS: THEIR ROLE IN PROPHYLAXIS IN DISEASES OF CHILDREN*

By JAMES JOSEPH KING, A.B., M.D.,
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The history of medicine shows that therapeutics was first considered, and that many centuries passed before prophylaxis was practiced. Today prophylaxis in diseases of children is the paramount issue before the medical profession. The subject is also of great economic importance. It is beyond the power of human intelligence to foretell the value of any particular child to its country. In my paper tonight I shall endeavor to show you how adenoids may influence the welfare of the child. In order to make every point quite clear I shall treat the subject in a somewhat comprehensive manner.

Adenoids are hypertrophied lymph glands. which normally exist in the epipharyngeal space. They are chiefly located on the superior and posterior walls of the epipharynx, though they sometimes extend into the fossae of Rosenmiller and to the mouth of the eustachian tubes.

The synonyms are adenoid vegetation, pharyngeal adenoids, pharyngeal tonsils and epipharyngeal tonsils.

ETIOLOGY.

Adenoids affect all ages, but are most common between the ages of six and fifteen. It has been estimated that adenoids are present in from 1 to 9 per cent of all children examined, and in deaf mutes in 50 to 73 per cent of all cases. Climate has little influence upon the formation of adenoids, as they are found in all climates. It may be said, however, that they are more liable to develop in cold, damp climates, possibly due to the constant irritation of the pharynx and epipharynx. In the negro race adenoids are rare, and to this condition perhaps their wonderful natural ability to sing may be ascribed. Although it cannot be said that adenoids are hereditary, they are often found in several members of the same family. This is probably because members of the same family are subject to similar environments and to similar anatomical malformations.

The formation of adenoids is favored by the use of comforters, which mothers allow their infants to suck to keep them quiet. This is a bad practice, as the nipples or comforters are unhygienic, unsanitary and produce a constant irritation in the pharynx and epipharynx. The practice of sucking the thumb is objectionable on the same grounds. I believe that bottle-fed infants who are allowed to nurse the bottles almost continually, and even to keep the nipples in the mouth while sleeping, are more prone to the development of adenoids than are breast-fed infants.

The most important etiological factor of adenoids, however, is the acute exanthematous fevers. It is well known that the lymphoid structures of children are especially susceptible to enlargement during bacterial stimulation. During attacks of these diseases the lymphoid structures of the pharynx and epipharynx are constantly irritated by bacterial invasion with resulting hypertrophy.

PATHOLOGY.

According to McBride and Turner the pharyngeal tonsil is a peripherally placed lymphatic gland, from which efferent ducts pass to nearest glands in the cervical chain. Their chief distribution is on the upper and posterior walls of the epipharynx. Moreover, it extends often to the fossae of Rosenmiller, and even the accompanying inflammation invades the eustachian tube in 66 per cent of the cases.

*Read before the Luzerne County Medical Society at its regular meeting in Wilkesbarre, Pa., May 10, 1911.

The adenoid masses are sessile, with uneven granular or lobulated surfaces. Histologically, the growths are composed of hyperplastic lymphoid tissue in which the quantity and density of the reticulum vary. The fibrous tissue is mostly perivascular and differs from the deep-seated lymphatic glands, in that it has an epithelial covering owing to its peripheral position. The epithelium covering the mass may be squamous or columnar; the latter is sometimes, though rarely, ciliated. A basement membrane can usually be detected. The epithelium and sometime the deeper tissue is necrotic. The crypts are often deeper than normal, and are not infrequently filled with caseous material. Dieulafay found tubercle bacilli in 20 per cent of the adenoids examined; of 75 examined by Lartigan and Nical eight contained tubercles and bacilli and four tubercles without bacilli.

The epithelial covering is not always of the same thickness and often there is a change in the type varying from the ciliated columnar to the stratified squamous of considerable thickness.

There is also considerable variation in the proportion of lymphoid and fibrous tissue, and McBride and Turner have endeavored by a comparison of the appearances in patients of different ages to seek some explanation of the gradual shrinking or disappearance which takes place in the adenoids in the course of time. An overgrowth of fibrous tissue forms around the blood vessels by a process of perivascular sclerosis; at any rate it is in the neighborhood of these blood vessels that the greatest amount of fibrous thickening is found. If an area be examined in which this change is taking place some of the blood vessels present a normal appearance; others show distinct thickness of their walls in concentric rings with diminution of their lumen. Some of the blood vessels have been found to be completely obliterated partly owing to the great thickening of their walls and partly to the contraction of fibrous tissue outside. There can be no doubt that the gradual shrinking of the adenoid mass is by the process of fibrous tissue forming around the blood vessels.

In view of these facts it appears that a development of fibrous tissue takes place in the substance of the adenoid hypertrophy, commencing around the blood vessels invading the lymphoid tissue and replacing it. This, however, is independent of the age of the patient, and is not one that necessarily commences at or after the age of puberty, but may occur at all ages, and be even more marked in the very young child than in the adult. It follows therefore that in any given case the growth can not be left to disappear itself. It may disappear or it may remain. We have no means at the present time of positively determining how soon it will disappear, or that it will ever disappear. Therefore, why delay operation and subject our patients to the oftentimes dangerous consequences of adenoids.

SYMPTOMS.

The most constant symptom of adenoids is mouth breathing. The facial expression is dull, listless, and the upper lip is thickened and protrudes. The child with adenoids usually snores at night. The hard palate is arched, and there is malocclusion of the teeth, the upper set projecting anteriorly to the lower set. There is often a fetid breath, due to particles of decayed food remaining in the crypts, and there is generally more or less pharyngeal irritation or catarrh, as it is commonly called. The child takes cold easily.

By looking into the throat the ragged edges of the adenoid tissues are sometimes seen projecting down into the pharynx. Upon examination of the epipharynx with the index finger behind the soft palate, a soft, pliable, gelatinous, worm-like substance is felt. Adenoids bleed easily, and often the index finger is streaked with blood or a small piece of adenoid tissue remains on the finger as it is withdrawn. With a laryngeal mirror and proper illumination the outline of the mass can sometimes be seen.

In most cases the mother complains that the child is very restless at night, has night terrors, often associated with nocturnal enuresis. The hearing is often impaired, and not infrequently there is an otitis media, either chronic or acute, suppurative or non-suppurative. The child is also restless and nervous in day time and is not content long at any one occupation or entertainment, and there is lowered mentality. When mothers bring their children with symptoms of worms, as they say, the child is more frequently suffering from the effects of adenoids.

Taste and smell are often modified by adenoids, as these special senses are so intimately associated with the epipharynx. The voice is also much affected; just as the dimensions of the vestibule are changed by adenoids, so will the resonance of the voice be affected, and it frequently has a muffled, thickened sound.

I have found large masses of adenoids in children, however, whose facial expression was not altered, and who had none of the characteristic symptoms.

The diagnosis of adenoids is made by the typical facial expression, by the characteristic sound of the voice, by the history of mouth breathing, lowered mentality, by the fetid odor of the breath, nervousness and lastly confirmed by feeling the adenoid mass in the epipharynx with the index finger.

EFFECTS.

The immediate effect of adenoids is to produce nasal obstruction and mouth breathing. Mouth breathing produces deformities of the mouth, teeth, face, palatal arches, chest and bones. Mouth breathing also predisposes to many systemic conditions, such as tuberculosis, pneumonia and diseases of the gastro-enteric tract. It is well known that the nasal mucous membrane is so constructed histologically that the air inspired through the nose is filtered, but when inspired through the mouth it is not filtered, and in this way many pathogenic germs gain an easy entrance to the general system.

The mouth breathing of adenoids produces the narrow V-shaped palatal arch with the high palate and protruding anterior teeth. In the lower teeth malformations are also found. They lose their normal relation to the upper teeth in the antero-posterior aspect. The lower anterior teeth instead of occluding just back of the incisal edge of the upper incisors, are posterior to this position by a distance of from one-eighth of an inch to three-fourths of an inch, and in supereruption to the extent that they are sometimes found imbedded in the tissues of the soft palate. I shall here report a case which illustrates this condition very well:

M. J., age 20 years, came to me because of nasal obstruction. This girl had never been able to breath properly, and her whole facial appearance bore evidence of the fact. Her mouth was always open. The upper lip was thickened and protruded. To a marked degree her palatal arch was narrowed and V-shaped. The anterior upper teeth protruded, and when she closed her mouth the lower central incisors were three-fourths of an inch posterior to the corresponding ones of the upper jaw. I had intended to show a picture of this face, but the negative turned out badly and I am unable to show it. Her nose also showed the effect of adenoids left to shrink up. The anterior nares were narrowed and had a pinched, drawn appearance.

The septum was deflected and its posterior part was attached to the middle turbinate bone on the left side. I removed a very large mass of adenoid tissue and subsequently did a submucous resection of the nasal cartilage and broke up the turbinal adhesions on the left side. This young lady was greatly improved by the operation, but it was not attended to soon enough. The adenoid expression will mark her for life. No dentist will ever be able to correct the contour of the narrow, highly-arched, V-shaped palate, or the malocclusion of the teeth, as the bony structures are too completely ossified at this age.

Adenoids produce well-known deformities of the chest. Pigeon breast and chicken breast is the result of continual mouth breathing. The general development is also interfered with. I have removed tonsils and adenoids from delicate, anaemic children and poorly nourished children, who invariably gained in weight, and in many cases the improvement in the general condition was remarkable. Recently after such an operation a boy of ten years has been gaining two to three pounds a week.

Rickets is a disease often caused by the presence of adenoids. This disease is a condition of chronic carbonic acid gas poisoning. Adenoids affect the general nutrition, as the normal respiratory passages are obstructed, and an excess of carbon dioxide remains in the blood. Frederic Coolidge has pointed out the relation between adenoids and club-foot and Ballenger has confirmed it in his saying, "Show me a bow-legged man, and I will show you one who had adenoids in infancy."

Adenoids produce anaemia. In most cases there is diminution in the number of red blood corpuscles and a lower percentage of hemoglobin.

It is well known that children with adenoids do not make as rapid progress in school as they otherwise would. It is hard to understand why the mentality of these children is lowered and harder to explain. The fact remains, however, that their mentality is below par, and I believe that it is partly due at least to the defective hearing so often present in these cases.

Children with adenoids and enlarged tonsils usually have cervical adenitis and a more or less frequent elevation of temperature.

The effect of adenoids and enlarged or diseased tonsils upon the auditory apparatus is one of the most important. Ear complications are present in the majority of cases. Often the adenoid mass encroaches upon the orifice of the Eustachian tube. Even though the mass does not touch the orifice, the epipharynx is obstructed, which interferes with the proper rarification of air going to the Eustachian tube. Furthermore there is an extension of the inflammation to and into the Eustachian tube. Consequently, we see cases of otitis media chronic and acute, suppurative and non-suppurative and frequent attacks of earache in children, all as a sequel to adenoids.

Recently I saw a young man of twenty-five years, whose adenoids had been removed two years ago, and who first consulted a rhinologist because of partial and at times complete deafness in one ear. The surgeon very properly removed his adenoids, but the damage had already been done, and this young man will have a chronic otitis media all of his life. It was one of these cases where the membrana tympani had assumed that shrunken, dull, ground-glass appearance, and the best consolation that could be offered was: "By more or less constant attention at frequent intervals it may not get any worse, but it can not be promised that the hearing will ever be improved." This is a sad prognosis for any young adult, and this case illustrates how serious the ear complications of adenoids often are. Furthermore, after the inflammation has extended into the Eustachian tube and middle ear it is but another step for it to extend into the mastoid cells and then it is a problem where life itself is in jeopardy.

PROGNOSIS.

The prognosis of children with adenoids depends upon the time at which operation is done. In young children when the operation is performed early marvelous results are obtained. By operation a dull child is often transformed into a bright one and the facial expression becomes beautiful; a poor singer is often made into a good one; and the general development is greatly improved.

TREATMENT.

For adenoids there is only one treatment worthy of the name, and that is surgical. I have shown you how dangerous it may be to treat adenoids by palliative measures; there-

fore, I believe that adenoids which need any treatment should be removed by operation.

IN GENERAL AND CONCLUSION.

Now to sum up and conclude, I wish to reiterate some statements and to add others.

By taking up the pathology of adenoids at some length it has been proven that adenoids cannot safely be left to shrink up at the age of puberty, or at any other age. I have shown you how much damage can be done by long continued mouth breathing. My first case cited illustrated the damage that was done to the appearance of the face by adenoids. In these cases of oral deformities the rhinologist and the dentist must work together mutually for the benefit of the patient. If the dentist sees such a case first, he should send the patient to a rhinologist at once for removal of the adenoids. On the other hand, if the patient first sees a surgeon, it should afterward be sent to the dentist for the completion of the correction of the deformity. The physician must first remove the cause, and the dentist can then do all in his power to repair the damage that has already taken place.

Furthermore, I have shown you how otitis media with deafness, earaches and mastoiditis, with their respective degrees of seriousness were caused by adenoids. By the proper early treatment of adenoids these conditions can be prevented and many a life has been lost through these conditions that ought to have been saved.

As my paper is one on prophylaxis, I feel that I can add a word of caution to those who do the operation for adenoids. It is an operation where care should be exercised. The patient should be properly prepared for the anesthetic by at least twelve (12) hours of fasting and a purge. Care should be exercised in the selection of, and in the administration of, the anesthetic. A child's life can easily be lost by negligence on the part of the surgeon to any of these little details. If the child is allowed to eat or to drink anything within a few hours before operation he may vomit during the administration of the anesthetic and aspirate particles of food and choke to death. Unless the child has fasted absolutely for at least twelve hours it is wiser to defer the operation until it has been prepared according to instructions.

If operation is to be done every care for the safety of the child should be exercised, and unless the surgeon does this he has not performed his duty fully.

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Next Meeting Jacksonville, Fla., November 12, 13, 14, 1912.

Our Pellagra Number

When we edited and arranged the manuscripts of the fourteen original articles on pellagra, and the discussions in the symposium on that subject at the recent meeting of the Southern Medical Association, we realized that the Southern Medical Journal was giving to the medical world the best and most comprehensive treatise on pellagra that has yet been published in the English language.

The subject was handled from every viewpoint by learned and prominent physicians, from various Southern States, who have had the best opportunities of studying the disease in all its phases. The mooted question of etiology was discussed by men who have gone deeply into the subject; the pathological changes, by the recognized American authority on the pathology of pellagra; the symptoms and course of the disease were described by careful observers who have treated a large number of cases; the racial characteristics, the manifestations of the disease in different States and countries, and its sociological aspects were discussed by men who have made special observations on those lines; another authority gave the prognosis of the various types; while the prophylaxis, hygienic management, the medical treatment and surgical aspects of pellagra were described by men who have had a wide experience in treating the disease.

One important paper, which we have held since last September for the pellagra number, was in some unaccountable manner overlooked, but it is published in this number of the Journal. We refer to "The Treatment of Pellagra by Direct Transfusion of Blood, Report of Thirty-one Cases," by Dr. H. P. Cole, of Mobile, who was one of two American physicians invited to read papers before the 1911 meeting of the British Medical Association. Dr. Cole's paper was most favorably

received by the English physicians, one evidence of which was his appointment as a member of the British Pellagra Commission to accompany Sambon into Italy to study the disease.

The Southern Medical Journal appreciates the privilege of presenting to its readers in the pellagra number so varied and elaborate discussion upon a subject of such widespread interest and importance. It proves that Southern physicians and surgeons are as careful thinkers and observers and as capable of original work as men from any part of the world. It is also evidence that, in any line of medical effort, Southern physicians have no need to consult greater authorities than we have in the South. This is said without the least effort to disparage the work done by the great men in the other sections of our country, and without any desire to foster any other sectional spirit than the pride that we should have in Southern men and Southern institutions.

We are glad to see that Southern physicians are, more than ever before, contributing much valuable material to medical literature, thereby making medical history, and the Southern Medical Journal enjoys the proud distinction of being the representative medical publication of a great section of country that is making wonderful strides in every line of human endeavor, particularly in every department of medicine and surgery.

We are delighted to receive the many expressions of appreciation for our "Pellagra Number." One well-known physician said: "The Pellagra Number is worth more than the three dollars dues of the Southern Medical Association." Another writes: "It is the best yet published on the subject of Pellagra." Another: "We are proud to have such a journal in the South." For fear of being accused of boasting, we will not add other kind words that have been written us in the past few days, that make glad the hearts of ye editors who have been working for years without financial reward, and we sometimes feel without hope of such reward, unless we should open our advertising pages to the proprietary medicine houses who exploit remedies that have not been approved by the Council on Chemistry and Pharmacy of the American Medical Association, and we would give up medical journalism before we would take one backward step in that direction.

Such words of encouragement inspire us and we greatly appreciate them, but let us make a request of the friends of the Journal. Will you not tell your medical confreres of the Journal, and suggest to them that they become subscribers, and therefore friends. We are sending in each copy of the April Journal a subscription blank and an addressed envelope. Will you not give them to some physician who does not receive the journal, with the "therapeutic suggestion" that he come into the fold?

If the Journal does not please you, will you not write us of our shortcomings and we will endeavor to overcome them. We have plans for improvements in the Journal, and more paying subscribers will help us to make them. We cannot hope for an increased income from advertising medicines, because with few exceptions—those whose advertisements you see in the Journal—the manufacturing pharmacists resent our high standard of advertising and will not give us advertisements of even their preparations that have been approved by the Council on Pharmacy and Chemistry of the American Medical Association.

We cannot be accused of sordid motives in making this appeal to our subscribers because we have worked for years without one cent salary and without any interest or dividends upon the large amount of money invested in the Journal. If we were conducting a medical journal for money we would adopt a different standard of advertising. We must have the subscribers to pay printers' bills and other expenses, though we have no idea of giving up the fight for ethical joursalism. We have

lived for years without any income from the Journal, and we can, and will, so long as our health continues, do the work and provide the money necessary for publishing, as one of the Nashville editors called it, " a first-class medical journal, one that will live and truly represent the medical profession of the South."

If the Journal pleases you is it not your duty to spread the gospel of its teachings and help in the fight to maintain in the South a clean medical journal, one that stands for the best of everything in medicine and surgery?

To Members of the Southern Medical Association

The Pellagra Number of the Southern Medical Journal should be sufficient evidence of the epoch-making work that is being done by the Southern Medical Association. The character of the contributions in that number, and of the other papers that have been and will be published in the Southern Medical Journal, shows that the Southern Medical Association, though in existence only five years, has earned an enviable position among the great medical organizations that are doing so much to elevate the standards of our profession, and to advance the science and art of medicine and surgery.

The Commission for the Study and Prevention of Malaria and the new Section on Hygiene and Preventive Medicine indicate that Southern physicians intend doing their part in the solution of their own problems through their representative medical organization. The needs and opportunities for a distinctively Southern medical organization must be apparent to every thinking physician and every loyal Southerner who is progressive enough to belong to his county medical society should also be a member of the Southern Medical Association.

Any organization must grow through the efforts of its members, and it was the enthusiastic cooperation of the progressive physicians in the Southern Medical Association that, in five years, built up a membership of one thousand of the leading physicians in the sip States of Georgia, Florida, Alabama, Mississippi, Louisiana and Tennessee. There are many more physicians in those States who should become members of the Southern Medical Association, and we should secure a large number of others from the States of Texas, Arkansas, Kentucky, the Virginias, the Carolinas, Maryland, District of Columbia, and from the surgeons in the United States Army, Navy, Public Health and Marine Hospital Service, and medical officers of the Canal Zone, all of whom were made eligible to membership at the Hattiesburg meeting.

Physicians who are not members cannot know of the advantages of membership in, or of the great work that is being done by the Southern Medical Association unless informed by our members, a duty that many have cheerfully and faithfully performed. This editorial is written for the purpose of urging each member, who reads it, to make the effort to induce his physician friends to join the Southern Medical Association. If each of our one thousand members would take the blank application for membership that is inserted in this number of the Journal and give it to a friend, persuading him to unite with our Southern Medical Association, we would have another one thousand members within a month.

Last year several enthusiastic members, while at meetings of their county and State medical associations, were provided with a number of blank applications for membership and secured a number of new members. We hope that at the coming meetings of the various State medical associations our members will not forget to boost the Southern Medical Association.

The President and other officers are doing splendid work in securing new members. The Secretary, who, by the way, is an unpaid officer, is doing his utmost, and the office force of the Southern Medical Journal has been, for the past week, engaged in sending out

ten thousand pamphlets to members of county medical societies and in each was inserted an application blank for membership in the Southern Medical Association. This was done without expense to the association except for the cost of printing the application blanks.

The united effort of our members during the next month, and particularly while at State medical association meetings, will result in a large increase in the membership of a medical organization that deserves the support of all progressive Southern physicians.

A Southern Medical Association Special Train to the Atlantic City Meeting of the A. M. A.

On the fourth day of June, 1912, the American Medical Association is to meet at Atlantic City. Its members will assemble from every State in the Union, from Panama, from Mexico, from Canada, and from the Isles of the Sea.

From no one specific region will it welcome members, more earnest, learned, ethical and practical than those who hail from the Sunny South, many of whom are also members of the Southern Medical Association. Like those of the greater organization, its members are enlisted in the endless war against fraud in medicine, ignorance in the profession, epidemic disease and unsanitary living. Hence, in sympathy, the two organizations are as one. The membership of the Southern Medical Association is distributed chiefly among those Southern States that are threaded by the great trunk lines of railroads leading to the cities of the East, and this fact has suggested the possibility of organizing one or more special trains from the various Southern States to Atlantic City for the A. M. A. meeting. A number of our prominent members have for two or three years discussed the advisability of arranging for such a special. San Antonio, Dallas, Houston, New Orleans, Mobile, Meridian, Montgomery, Birmingham, Nashville and Louisville could each provide passengers for one or more Pullman sleepers. The train would start from the southernmost point, perhaps at San Antonio or New Orleans, at an appointed time and pick up the waiting sleepers at each successive rendezvous. By the time the Southern Medical Association contingent reached Baltimore it would carry such an assemblage of able and eminent men as are seldom gathered for such a trip.

If readers of this Journal like the idea, they can easily set the enterprise in motion. Let every member of the American Medical Association who would join in the excursion, perhaps with some members of his family also, *write at once to the Secretary-Treasurer, giving address, city of embarking and amount of space required,* and he will inaugurate a correspondence with railroad officials and learn what can be done.

Certainly such a trip, in company with the finest, most congenial companions in the world, and at no more cost, or even less, than for taking it alone, must be tempting to a sufficient number of S. M. A. members to insure the railroads a paying train. What do you say?

State Boards of Medical Examiners

Some time ago the Journal decided that many of its readers would like to know the results of State Board examinations of applicants for registration as legal practitioners of medicine. To this end the State Boards of Medical Examiners of the States whose qualified physicians are eligible for membership in the Southern Medical Association were requested to furnish the Journal with the desired information. Several of the Boards responded, but most of their replies were of a character unavailable for our purpose. It seems to the Journal that the weak point has heretofore been in the admission to matriculation in many medical colleges of men so deficient in preparatory education as to be crippled throughout the entire course by ina-

bility to understand the phrases and technicalities inseparable from the study of medicine. The result must inevitably be apparent in the comparative standing of graduates of the various colleges before State Boards of Medical Examiners when they apply for examination to secure registration and a legal status.

The Medical Examining Boards of most of the Southern States have now established satisfactory standards of requirements, and though they are not uniform, yet an analysis of results in each State will plainly show which of the medical colleges are, and which are not, enforcing adequate standards of entrance and of graduation.

No college can afford long to allow poorly equipped graduates to represent it before State Boards if their findings are to be published in a shape to reach the entire profession. True some colleges, in a transition state from previous laxity of requirements to present satisfactory standards, must suffer for a few years as their weak students pass on and out, but most of them have now passed that stage. Hence the Journal intends to hereafter publish, as nearly as practicable, twice a year, comparative tables gleaned from an analysis of reports of State Medical Examining Boards of all the Southern States, showing the percentage of successes and failures meted out to the graduates of each college whose name appears in the published reports. No names of persons examined will be given. Only the number of graduates of each school examined, the number passing and the number failing. The tables will be condensed, and it is intended to begin their publication in the June number, when the reports of examinations for the first half of 1912 will be available.

The Journal believes that such a published record will be a powerful incentive to schools that might otherwise be careless, to guard well the gates both of admission and graduation. True they are published from time to time in the A. M. A. and other journals, but we hope to show them all, side by side, for convenient comparison.

A great many physicians desire to know which are the schools of medicine that most thoroughly prepare their students for the life-work before them. Handsome catalogues, lists of laboratories, high-sounding claims are not always easily gauged and valued, but where figures show that year after year eighty or more per cent of the graduates of one school successfully pass the crucial examinations, while of those of another school barely forty per cent squeeze through, it requires no debate in a doctor's mind to determine which school he will recommend to inquirers, whether they be his own students or merely friends who seek his advice.

The elevation of the standards of medical education in the South has been truly marvelous during the past decade, and the Journal believes that the comparative tables it hopes to publish will surprise many people who have heard statements to that effect with skepticism. The Journal's motto, "The Truth, and the Truth only," will apply in this instance with great benefit to the people and the profession, and none who would object can give a valid reason for opposition. "Let there be light!"

Do You Read Them?

The editor sometimes wonders whether, when a subscriber reads the advertising pages of the Southern Medical Journal, he ever cogitates as follows: "Well, well! That is a strong advertisement, and it must be true, for this Journal is pledged not to advertise anything of any character unless it is known without a doubt to be reliable, and just as described!" Or, "It surely is a comfort to know, when I prescribe one of these articles, that it has been thoroughly examined by a board of expert chemists, and found worthy of confidence, so far as the statements of the manufacturers are concerned." "This motto,

'The Truth and the Truth Only, on Every Page, from Cover to Cover,' means the advertising pages as well as the rest.

"It certainly gives me a feeling of confidence I could not experience if these advertisements were sandwiched in between those of the rotten fakes so well known to some of us." Or, "Though, like Pilate, doctors often wonder 'what is truth?' We know a few places where we are sure that what we read is not a lot of lies, and one of those places is in the advertising department of the Southern Medical Journal." If our reader thus cogitates he does us only simple justice, barring unconscious errors prone to humanity. And it would be a great help to us if, whenever they write to a firm whose advertisement they have seen in this magazine, they would say, "I saw your advertisement in the Southern Medical Journal." Please do!

X-Ray Diagnosis in Stomach Lesions

We have read with much pleasure in the January number of the Ohio State Journal an article by Sidney Lange, M.D., of Cincinnati, treating of the facility of diagnosis of certain lesions of the stomach by means of skiagraphs. He gives the formula for a bismuth mixture which will maintain its condition a long time without separation of ingredients. It is composed of two ounces of bismuth subcarbonate or oxychloride suspended in 12 ounces of (preferably) thefermented whole-milk preparation sold under the name of kefyr, bovilac, etc."

The whole amount, fourteen ounces, is introduced into the empty stomach, and the patient is examined in the upright position. He describes the action of the stomach and the forms it assumes, as revealed upon the sensitized screen, and the peristaltic motions, resulting in emptying the viscus "within certain normal time limits." He exclaims that "the disclosure to the human eye of this hitherto invisible organ is one of the most brilliant achievements of the Roentgen era!" Four fine large skiagrams and several diagrams elucidate the article.

Various deforming lesions are shown and described, and the usefulness of the X-ray in their diagnosis fully set forth. It is an interesting and valuable article. The same issue of the Ohio State Journal contains other valuable papers. The Ohio doctors evidently appreciate and support it as it deserves.

Why Tablets?

The other day a student in the class in materia medica, availing himself of a standing invitation, asked his professor this question: "If, as you say, chloral is so extremely irritating to tissues that it must never be given except in watery solution well diluted, why do the druggists supply it in tablets of various weights?" The professor replied that it was for convenience in insuring accurate dosage. In many instances doctors supply patients with necessary medicines from the buggy-chest or pocket-case they carry, and it is easy to count out a certain number of doses with accuracy, crush and dissolve them in a proper number of spoonfuls of water, and give directions for further dilution when taken. Several other drugs unsuitable for administration in solid form are supplied in tablets for the same reason. A prescription composed, for instance, of chloral 5 grains, bromide of soda 10 grains and sulphate of codeine 1-4 grain to the tablespoonful could thus be compounded by the bedside with an accuracy that could not be surpassed by the most accomplished pharmacist. Two things the doctor who dispenses from tablet bottles must know and remember. One is the substances which, like chloral, or permanganate of poash, are too irritating ever to be given save in weak solution; or those, like bromide of potassium, though not really caustic in concentrated form, are yet very irritating. The other, that all drugs in tablet form offer grievous temptation to adulteration, or deceit concerning their age, to unscrup-

ulous manufacturers. To be on the safe side buy only from men you know you can rely on to give fresh, active remedies; never buy drugs that are cheaper than the regular rates; finally, unless you are sure of your home druggist, buy only from wholesale manufacturers upon whom you can rely. If this *Journal* accepts their advertisements you can trust them.

The Success of Fanaticism and the Valor of Ignorance

It is only reasonable to expect that the loud-mouthed vaporings of self-conceited cranks and fanatics, who have for years fought vaccination, should have its effect on the opinions and actions of that large part of the population which does not know the real facts concerning it. They hear only one side of the question, and the splendid history of vaccination and the records of numberless lives saved by it from destruction during the past hundred years have never been revealed to them.

Certain recent happenings are but the logical results of these conditions. At Olean, in the state of New York, the board of health ordered all school children vaccinated as a prerequisite to attendance, but the board of education told the 1,400 children to attend school whether vaccinated or not, though the members acknowledged that smallpox is prevalent in that vicinity. Again, at a recent meeting of the board of aldermen of the city of New York a Tammany leader "objected to city doctors visiting the homes of the poor and scratching the arms of children in tenement houses," so the necessary funds were not appropriated. Perhaps it will require a fierce epidemic of variola, such as Canada experienced a few years ago, to teach "man, proud man, clothed with a little brief authority," that the laws of infection do not bow to the necessities of politics, and that a few hundred deaths from a disgusting, loathsome disease may prove fatal also to the aspirations of the most cunning watchdog of a public treasury.

Clinical versus Laboratory Findings

In the February number of this Journal was an article by the well-known physician and investigator, G. W. Crile, of Cleveland, Ohio, wherein he detailed his conclusions concerning the value of operative treatment of Grave's disease.

In this article he makes use of one phrase which is very significant. He says: "Now, of course, it is an exiom that when laboratory findings run counter to clinical phenomena the laboratory must readjust itself." This is a clear statement of a doctrine that has always been upheld by this Journal. We have never minimized the importance of the laboratory in forming exact diagnoses, but have contended that the clinical test was the court of last resort. This is precisely opposite to the position assumed by some laboratory men, namely, that the laboratory finding is the supreme authority to which clinical observations must conform or be discredited. Truly sanity is once more beginning to control the conclusions of our scientific men.

Life Without Breathing

It is no longer absolutely necessary for one to breathe to support life, nor to have what is called artificial respiration performed. Such is the conclusion reached from a study of the action of a simple apparatus designed by Dr. Charles Elsburg, and practically used in the Buffalo General Hospital, according to the Buffalo Medical Journal for January, 1912.

Dr. Meltzer, of New York, had previously shown that if a constant current of air shall be delivered at or near the division of the windpipe under an exceedingly gentle pressure, "there is no need of respiratory movement on the part of the patient. By mixing a measured amount of ether vapor with the air both life and anaesthesia may be obtained for as many hours as may be desired."

The apparatus seems to be "a small pump run by a motor." From this pump the air is led to a receptacle wherein apparently the de-

sired pressure, "a few millimeters," is secured, and from which the air, either pure or etherized, is led by a small tube down through the glottis and trachea, "and halted about one inch above its bifurcation." The gentle pressure carries the air to the remotest ramifications of the bronchial tubes, where it is "delivered at the gateway of the capillaries just as predigested food can be deliverd within the stomach, virtually all ready for use."

It can be readily understood that such an arrangement would be supremely convenient in operations requiring the opening of the chest wall. Such, however, is a demand that does not occur every day. But when one thinks of the many conditions wherein life can be saved if respiration can be maintained for a longer or shorter length of time, and realizes that with this apparatus it can be done quietly, gently, efficiently and certainly, without effort or fatigue to either doctor of patient, then its great possibilities begin to draw on the understanding.

The surgical case collapsed under the anaesthetic; the case poisoned with morphine; the person apparently drowned, the return to life of such as these often depends entirely on maintaining oxygenation of the blood until the poison is spent, or vitality resumed. Under such circumstances doctors have labored and panted and perspired and agonized for hours, sometimes, to keep up "artificial respiration," working in relays of tired, desperate men.

Now, how different! The patient lies at ease, the doctor watches iris and heart and wields his hypodermic. The nurse keeps the water bottles warm, and a little pump run by a tiny electric motor does all the work for the doctor and the breathing for the patient. Wonderful!

Errata

In the splendid paper of Dr. C. A. Thigpen, of Montgomery, on "Report of Two Cases of Foreign body in the Right Bronchus Removed by Superior Bronchoscopy," published in this journal last month, the managing editor allowed a regrettable error in the proof sheets to pass unnoticed. Therefore, the proper illustration, which appears at the top of page 29, was followed by three other skiagraphs of similar size and general appearance, but which pertain to another article. The occurrence is regrettable, but the M. E. hopes no harm was done.

THERAPEUTICS

THE OFFICIAL PREPARATIONS OF THE U. S. P. AND N. F.

In view of the ever-increasing popularity of the official drugs and preparations of the United States Pharmacopoeia and the National Formulary among the members of the medical profession, it may be interesting to note a few reasons for this fact.

These official preparations are of a definite and known composition and strength; they are active therapeutically; they are economical to use; all the ingredients being known there is no occasion for prescribing contraindicated drugs; their titles as used in prescription writing cannot be read by the laity, hence self-medication is manifestly rendered almost impossible.

To supply our readers with authoritative information regarding these preparations we have determined to establish a department in our journal with the above heading and to each month discuss two or more of these preparations. This month we will feature the Compound Syrup of White Pine N. F., and Tincture of Digitalis, U. S. P.

Syrupus Pini Strobi Compositus, N. F.

The Compound Syrup of White Pine, N. F., represents in each teaspoonful dose the fol-

lowing: Five grains each of white pine bark and wild cherry bark, 5-8 grain each of balm Gilead and spikenard root, 1-2 grain of sanguinaria, 3-8 grain of sassafras bark, and contains also 1-32 grain of morphine sulphate and 1-3 minim of chloroform.

The sugar-content is 75 per cent and the alcohol-content is 6 per cent. May be given in doses 4-8 c.c. (1-2 fluidrams).

Probably no similar preparation of a like nature or of a proprietary character has such effective sedative expectorant properties. It has a pleasant taste and may be prescribed in connection with other expectorant remedies if desired.

The ingredients of this preparation are well blended; the aromatic properties of the sassafras and the stomachic properties of the wild cherry serve to control any irritability of the stomach which often manifests itself in the administration of cough remedies. The antiseptic properties of the balsamic resin in the Balm of Gilead also serve a most useful purpose in removing any bacterial inflammation present.

Occasions may arise where the use of morphine is objectionable in this syrup. In such cases it may be omitted. It can also at times be replaced by menthol with advantage. Otherwise, however, the combination is a good one and ought not to be interfered with.

The expectorant action of this syrup is mainly to diminish secretion, and it would therefore be an improper remedy where an increased secretion is the object sought. The choice of expectorants must be governed by the condition of the mucus, and in a measure by the general condition of the patient.

Tinctura Digitalis, U. S. P.

Tincture of Digitalis represents 10 per cent digitalis and contains about 46 per cent of alcohol. Its dose is from 0.3 c.c. to 1.5 c.c. (5 to 25 minims). It has a brown color, with a suggestion of green, a narcotic odor characteristic of the drug, a somewhat bitter taste, and is miscible in all proportions with alcohol and water.

Digitalis produces a direct stimulation of all forms of muscular tissue, of the vagus ganglia, and of the medullary centers; the most useful being the stimulation of the cardiac muscle, producing a more powerful systole, and later a lessened diastole. It is undoubtedly the most valuable remedy at the command of the medical profession in cardiac and renal dropsy.

Most authorities are agreed that the recumbent posture must be maintained when the drug is given for its full cardiac effects. If given for any length of time the heart is so strained by over-stimulation that on suddenly assuming the erect position the cardiac energy may fail, and especially if the doses are administered too closely together.

Digitalis is slow in action, requiring from thirty-six to forty-eight hours to manifest its full intensity. A common mistake is often observed in that too large a dose is prescribed at first, which tends to premature arterial contraction and cumulative effects. Elimination of digitalis is also effected very slowly.

It is contraindicated in a slow pulse due to weakness of the heart wall; an incompetent aorta; any form of cachexia, where the drug has already been used for some time; and it should also be given with great care to persons with fatty dgeneration of the heart and dilation.

A point worth remembering is that when the cardiac effect of digitalis is desired the tincture should be employed, and the ingestion of any aqueous fluid be prohibited within thirty minutes, either before or after swallowing a dose. If the diuretic action is required, the proper preparation to use is the infusion (Infusion Digitalis, U. S. P.). This infusion represents the aqueous extract of two grains of digitalis to each dose, an average dose being 8 c.c. (2 fluidrams).

The reason for this is that those active principles of digitalis which are soluble in alcohol

(represented by the tincture) produce the characteristic cardiac effects of the drug, while those principles soluble in water (represented by the infusion) produce the diuretic effect. Some recently offered preparations of digitalis which have been approved by the A. M. A. Council, such for instance, as digalen, have also proven worthy of confidence after careful clinical experience. In fact, any preparations placed on the list of New and Non-Official Remedies may be considered absolutely free from misrepresentation, many of them assuming important positions in therapeutics.

THE NEW ANTISEPTIC.

This Journal does not undertake to say that the new antiseptic, Chinosol, will do all that is claimed for it. In spite of the fact that the A. M. A. Council on Chemistry and Pharmacy has investigated it and pronounced it nontoxic, and as an antiseptic equal to mercuric chloride and superior to phenol, the professio has been a little slow to adopt it. It does not seem reasonable that any substance which is absolutely not poisonous can be an antiseptic in a 1 to 5000 solution, yet that is what is claimed by the manufacturers and acknowledged by the Council.

This is no "reading notice" or other form of advertisement. Only because the antiseptic is new, and proposes to be the most valuable one in materia medica, do we deem it our duty to suggest that doctors everywhere try it, and see for themselves. Only clinical demonstration is final. It is up to us to make it, one way or the other.

GAS AND OXYGEN—THE OTHER SIDE

So many enthusiastic reports have been published of the ease, efficiency and safety of producing surgical anaesthesia by the inhalation of a mixture of nitrous oxid gas and oxygen that the possibility of the existence of another side to the picture was almost lost sight of.

This other side is hinted at in a readable article by Freeman Allen, M.D., Consulting Anaesthetist to the Massachusetts General Hospital and Children's Hospital at Boston. It was read before the Obstetrical Society of that city November 28, 1911, and published in full in the Journal of the American Medical Association, February 10, 1912. In this article Dr. Allen flatly denies that the gas-oxygen anaesthesia is the safest method under all circumstances. He indorses it for very brief operations, like those in dentistry, but says it is not so applicable for those occupying considerable time. He quotes Bennett, of New York, who says, "Alarming symptoms have several times appeared with such rapidity and so little warning" that he fears a general adoption of the method would show as many fatalities as chloroform or ether.

Dr. Allen has several times encountered these "alarming symptoms." "They occur suddenly and without warning. The patient becomes livid, respiration fails, the pupil dilates and—which I consider the most alarming sign of all—the corneal reflex becomes faint or absent. Last year I had a death under nitrous oxide and oxygen." He also knows of two other deaths and one alarming accident from gas-oxygen in Boston within two years.

Dr. Allen accounts for the immunity from such accidents in Crile's clinic by his improved apparatus, use of "anoci-association, infinite pains, and skilled anaesthetists." He quotes approvingly Crile's statement that "It is the most difficult anaesthetic to administer; its effects are fleeting; there is imperfect relaxation of the abdominal muscles; it is more expensive than ether, and there is more venous congestion."

In closing, he sums up the following conclusions:

"1. Writers quoting statistics designed to show the safety of gas and oxygen anaesthesia should carefully separate the brief administration of dentistry and minor surgery from the prolonged administrations of major surgery.

"2. Anaesthetic deaths occurring during the use of nitrous oxid and oxygen in major surgery are not uncommon.

"3. There are at the present time not enough statistics as to the safety of nitrous oxid and oxygen in major surgery to show that it is as safe as ether or chloroform.

"4. In order to insure a maximum of safety, gas and oxygen should not be administered except by a skilled anaesthetist equipped with the best available apparatus, and patients should receive preliminary hypodermic medication.

"5. In estimating the freedom from after-effects of gas and oxygen anaesthesia in major surgery, careful distinction must be made between patients receiving gas and oxygen only and those receiving gas and oxygen and 'just a little ether.'

"6. When given with large amounts of ether, gas and oxygen have only a slight advantage over the nitrous oxid-ether sequence properly administered by the closed method."

AVOIDANCE OF ANAPHYLAXIS.

Besredka, of the Paris Pasteur Institute, has been experimenting with anaphylaxis and guinea pigs, and thinks he has discovered something of practical value.

He determined the smallest dose of serum that would cause anaphylaxis in a series of sensitized guinea pigs, and then injected 1-10 that amount. Half an hour later he injected ten times the first amount, and a little later still ten times more. We give the remainder of the article as it appears in American Medicine, January, 1912:

The rapidity with which this anti-anaphylactic state was established differed very much, according to whether the vaccinating injection was made into the peritoneum or subcutaneously or intravenously. Thus, four hours were necessary for the establishment of anti-anaphylaxis after a subcutaneous injection; from one to two hours when the injection was made into the peritoneum or cerebrospinal canal; while, if made intravenously, it occurred after a half minute and may be considered almost instantaneous.

Thanks to Besredka, we have but to observe his technic to avoid what, under certain conditions, may give rise to most deplorable results. By making the serum injections into the veins, first a drop, a half minute later a few, then, after a time, more, and so on, we may safely inject any size of serum dose without fear, the whole not requiring more than five minutes more than we now give to the same operation. The increased safety is well worth the extra time.

BOOK REVIEWS

PHYSICAL DIAGNOSIS.

PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS.

By John C. DaCosta, Jr. M.D., Assistant Professor of Clinical Medicine, Jefferson Medical College, Philadelphia. Second edition, revised. Octavo of 557 pages, with 225 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $3.50 net.

Many years ago a famous Philadephia professor of medicine told his class that diagnosis was to the physician what his club was to Hercules—the weapon which gave him victory over all adversaries. He proceeded to say that any ordinary man who knew the disease and conditions could find in a hundred books directions how to treat the patient. Though much exaggerated, yet there is truth in his statements.

Had he lived to read this edition of DaCosta's "Physical Diagnosis," he would have been strengthened in his belief. In seeking to convey a clear idea of its value, the reviewer cannot do better than quote a few sentences from the preface, as follows:

"To meet the requirements of junior students, especial consideration is given to clinical anatomy and to the origin, mechanism and meaning of normal physical signs; while, in order to guide those further advanced in the study and practice of medicine, the subjects of pathology and diagnosis are accorded commensurate prominence."

Again: "Useful laboratory information, in so far as it applies to the diagnosis of particular lesions, is discussed in connection therewith, but an account of special laboratory technic, not being germane to the plan of this work, is omitted."

Concerning the illustrations he speaks freely, describing the various kinds, with their technical names. Thus he mentions Kaiserling preparations, Recknagel model studies, sphigmograms, cardiograms and radiographic plates.

Inspection shows each to be the best of its kind. Especially valuable are those representing various clinical conditions, for they are reproduced from photographs of patients observed in the Jefferson Hospital and in the Philadelphia General Hospital. It is difficult to conceive of any improvement that could possibly be made to the lucidity and comprehensiveness of this splendid work.

OPERATIVE OBSTETRICS.

OPERATIVE OBSTETRICS, INCLUDING THE SURGERY OF THE NEWBORN.

By Edward P. Davis, M.D., Professor of Obstetrics, Jefferson Medical College, Philadelphia. Octavo volume of 483 pages, with 264 illustrations. Philadephia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

Numberless books have been written on the subject of obstetrics; none with which the reviewer is

familiar is exactly like this one. It deals more extensively with the subject from a surgical point of view than is commonly the case. It begins with a brief review of the anatomy of the birth-canal during pregnancy, the position of the womb during development, and its size at various periods of pregnancy. For the average patient when the fundus can be recognized by abdominal pressure the case is six weeks advanced. "At twenty-four weeks the fundus has reached the umbilicus." Measuring from the same point, it is "at thirty-six weeks once and a half the breadth of the ordinary hand" above it. He adopts the modern view that bacteria are always present in the vagina during pregnancy. "Streptococci staphylococci, the bacillus coli communis, the pneumococcus and lower forms of bacteria of lesser virulence may be present in perfectly healthy individuals." He considers danger from them very remote, unless they are carried into the uterus by the hand or instruments, and where there is laceration or wounding of the endometrium, when they produce infection. He does not consider pregnancy unfavorable to surgical operations so long as the patient is in a normal condition of good health.

He considers obstetric anaesthesia a serious performance, and thinks it should be conducted "with the same care which is given to the administration of anaesthetics in other surgical procedures," which is undoubtedly true, but not generally practicable. He prefers ether as an anaesthetic, but in certain conditions uses chloroform. He has tried ethyl chlorid, but condemns it. His descriptions and illustrations of the various positions, operations and instrumentation are superb. In a word, no matter how full the obstetrician's library, it will not be complete without this splendid work.

A TREATISE ON TUMORS.

By Arthur E. Hertzler, M.D., Ph.D., Associate Professor of Surgery in the University of Kansas, etc., etc., etc. Illustrated with 538 engravings and 8 plates. 725 pages. Lea & Febiger, Philadelphia and New York.

Nearly one-fourth of all surgical literature has to do with tumors. It would be practically impossible even to read all of this vast material, but a careful inspection of this great work and the list of authorities to whom it refers shows that our author has come very near to accomplishing an acquaintance with the work and opinions of leading workers in his special field of knowledge everywhere.

The material and workmanship of the heavy volume are of the very best and worthy of the exalted character of their message to the profession of medicine and surgery. The work is divided into three parts.

Part I occupies forty pages and is devoted to "The General Biology of Tumors."

Part II contains 160 pages, divided into 18 chapters, each of which is devoted to a careful, illustrated consideration of some particular form of tumor.

Part III, 460 pages, is a regional consideration of tumors.

The chapters are constructed according to one comprehensive, general plan. This includes, first, a conception or definition of what is meant by the title of each form of tumor considered. Then the different types of the same class are studied, and the causes of their variation. Then come their macroscopic appearance, their microscopic appearance, topographical relations, and, where there are varieties of the same general character, the methods of differentiation. Finally come the principles governing the treatment. Of course, this plan is not rigidly adhered to, but it is generally followed. The plates and engravings are first-class in every respect. Such a philosophical method of attacking this immense study robs it of half its difficulties.

The profession of medicine and surgery owes a vote of thanks to Dr. Hertzler for his patient, accurate labor, and to the publishers for the handsome and substantial form in which they have presented it. The reviewer prophesies that few surgeons of note will deny themselves the advantage and pleasure of possessing it.

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS.

By Jay Frank Schamberg, M.D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Second edition, revised. Octavo of 573 pages, 235 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $3.00 net

This edition of a book of marvelous popularity has been made more valuable by the addition of chapters on pellagra, sporotrichosis, grain itch, vaccine therapy, and treatment by refrigeration, including the use of solid carbon dioxide. In addition to these chapters, there is added a revision of syphilis therapy, incorporating the new treatment of Ehrlich, with a parallel discussion of the Wasserman reaction. This is undoubtedly one of the best and most up-to-date texts on dermatology now available.

CORRESPONDENCE

CONGRATULATIONS.

GLENWAY AVE., CINCINNATI, Jan. 23, 1912.

EDITOR JOURNAL: I want to congratulate you on the December number of your Journal, in which you have such an excellent report of the recent meeting of the Southern Medical Association. I'm glad to see that you are to be its "mouth-piece" in the future. You have certainly had to work "some" to get the Journal in its present excellent condition. It is one of the very best that comes to my table. In enumerating what is comprehended under your various sections I observe that you have left out what we neurologists and psychiatrists think of great and growing importance, viz.: nervous and mental diseases. . . . The various specialists, of whom there are so many kinds nowadays, really do not care to hear a paper that is not in their particular line of study. What time they have to read and write will be devoted to their specialties. I notice that your next meeting is to be at Jacksonville, Fla., and "if within the length of my cable tow," I shall invite myself to be present. With best wishes to both of you,

Sincerely,

BROOKS F. BEEBE.

Grandview Sanitarium.

WANT TO COME IN.

DUSTIN, OKLA.

EDITORS SOUTHERN MEDICAL JOURNAL: I notice in the December number of the Journal that in Article 3 of the Constitution only certain states are admitted to membership.

Two bordering on this, the State of Ok'ahoma, namely, Arkansas and Texas, are admitted. What have we done to be left out? We are practically all Southerners, most of us from Southern schools. We are young, but so is the Association. We have not yet had the chance to come forward. Oklahoma belongs in this group. At our constittuional convention for statehood we had 102 Democratic delegates and 10 Republicans. This is not mentioned as a reason for admittance, for politics should play no part in a medical association, but merely to remind you that we are in the South.

We have the goods, and I believe we are justly entitled to come in. Cordially,

IRA W. ROBERTSON.

P. S.—Enclosed fee for 1912 subscription.

(See Editorial.)

LARVAE IN THE EAR.

COLUMBUS, GA., Nov. 20, 1911.

EDITORS JOURNAL: I have been consulted by numbers of patients with foreign bodies in the ear—flies, fleas, gnats, roaches, large crickets, and various kinds of bugs, but only once have I been called on to remove maggots. A young man, white, eighteen years of age, worked at a sawmill. This patient had a chronic otorrhea with large perforation of ear drum, and necrosing bones, which no doubt were the bait for the blow-fly that deposited the larvae.

When the patient came for examination he seemed to be in great pain. I found four large larvae, and I have never seen any larger. The maggots were floundering in pus and blood with their heads through the drum perforations.

I thought it would be easy to syringe them out, but I was disappointed. Then I chloroformed them, and while they were anaesthetized they were easily removed by syringing. I laid them on a glass plate and waited a few minutes. They recovered from the anaesthetic and seemed to be as much alive as ever. The young man took great delight in killing them. He was greatly embarrased when I showed them to him. Yours respectfully,

W. L. BULLARD, M.D.

(The editors are confident that readers of the Journal would like to know the amount of chloroform used, the manner of its application, and whether it caused pain to the patient. Generally when chloroform is applied to a surface it does one of two things: If it be confined from escaping it causes a sensation of intense burning. On the other hand, if the vapor is allowed to escape freely it causes an intense degree of cold that is painful to delicate tissues. The Journal would be glad to hear from the doctor again on this subject.)

IMPORTANT MEETING.

ROCHESTER, N. Y., Jan. 10, 1912.

EDITORS JOURNAL: The ninth annual meeting of The American Society of Tropical Medicine will be held in Atlantic City, Monday, June 3, 1912. It is important that you should notify the Secretary, without delay, the title of any communication that you may wish to make. The Council will meet on Saturday, June 1.

The Society has been elected a constituent society of The Congress of American Physicians and Surgeons, which meets in Washington every three years.

Please note the Secretary's change of address.

JOHN M. SWAN, *Sec.*

ELECTION OF OFFICERS.

From Tupelo, Miss., comes the following:

TUPELO, MISS., Dec. 11, 1911.

The regular monthly meeting of the East Mis sissippi Four-County Medical Society was held at the court house last week. The meeting was called to order by Dr. T. F. Elkin, President, with Dr. F. J. Underwood, Secretary, present and acting.

Interesting and profitable papers were read by three physicians from Memphis, who had been invited to be present.

After the program had been carried out the following officers were elected for the ensuing year: Dr. Woody Reed, of Itawamba County, President; Dr.. Sam Nabers, of Itawamba, Vice-President for Itawamba; Dr. W. J. Grady, Vice-President for Monroe; Dr. S. C. Spencer, Vice-President for Lee; Dr. Donaldson, Vice-President for Chickasaw; F. J. Underwood was re-elected Secretary.

The visiting physicians were Drs. Campbell, Carter, Lewis, and McCown, of Memphis, and Dr. Carruth, of Chesterville. The visiting physicains and mem-

bers of the society were the guests of the local physicians at a sumptuous repast at Hotel Monaghan.

"BETTER LATE THAN NEVER."

A press of matter calling for publication has crowded out several announcements of society elections which we would have gladly found room for. However, we have requisitioned space for them here. From Brookhaven, Miss., our friend Dr. D. W. Jones sends the following:

The Tri-County Medical Society held its regular meeting at the City Hall, Brookhaven, Dec. 6, with the following members present: Arrington, Beacham, Boyd, Butler, Dampeer, Dickerson, Dodds, Flowers, Frizell, Higdon, D. W. Jones, Johnson, W. L. Little, D. W. Magee, M. M. Magee, T. K. Magee, Martin, McLeod, McRee, Purser, Ratliff, G. W. Robertson, W. W. Robertson, G. R. Robertson, E. A. Rowan, S. L. Rowan, Safley, Segrest, Wroten, Whitfield, and Mayor Heuck.

No scientific program is undertaken at the annual meeting, but after a short business session, including the Treasurer's report and the President's address, the election of officers is held and a banquet follows. The address of President Dampeer reviewed the work of the year, in which he congratulated the society upon the fact that at no meeting had they failed to carry out a scientific program worthy of the time and expense of every member attending.

Secretary D. W. Jones then presented the report of the Treasurer, which showed a healthy surplus on hand. The Secretary sounded a note of warning to the older members that the society could not afford the absence of their wise counsel without depreciation of the scientific work, and called by name many who have been absent from roll more than usual this year.

Election of officers followed, resulting in the selection of Dr. J. T. Butler for President; D. W. Jones for Secretary-Treasurer; D. W. Magee, W. B. Patterson, S. P. Klotz, for Vice-Presidents (the Vice-Presidents are members of the Executive Committee); J. H. Johnson for Censor.

The members and guests then repaired to the Gem Restaurant, where the annual banquet, under the direction of Dr. Frizell, Chairman of the Committee on Entertainment, was held. The feast was enlivened by toasts and anecdotes, under the direction of Dr. McLeod, toastmaster. A general good time was had, and everybody went away determined that the next year shall be the best in the history of the society. Next meeting at McComb, Feb. 6.

D. W. JONES, *Sec.*

ATOXYL TECHNIC.

CHATTAHOOCHEE, FLA., Dec. 19, 1911.

EDITORS JOURNAL: I enclose herewith letter from Victor Koechl & Co. in reference to preparation of hypodermic solution of atoxyl, which I thought might be of interest to the readers of the Journal. As will be noted, boiling the solution in all probability causes complete decomposition.

In this hospital large and often repeated doses have been given hypodermatically, all the solutions having been boiled. In some instances, however, there were mild toxic effects noted, which were attributed to arsenic.

We are indebted to Dr. B. F. Barnes, assistant physician at this hospital, for attention being called to this point.

Some time ago, the writer, as a result of some investigations, found that in a certain portion of Mexico the natives prepared corn meal by the mixture of potash, and so far as could be learned pellagra did not exist in the particular section where this method of handling maize products was in vogue. On this hypothesis U. S. P. liquor potassae was administered to pellagra cases, in large doses, with somewhat satisfactory results. Dr. Martin, of Hot Springs, has been using salvarsan intravenously with excellent results, and the idea occurred to the writer that some of the good results may have been due to the alkalinity of the solutions employed. Whether potash has some inhibitory effect on a specific organism, whether potash deficiency exists in pellagra or whether the whole idea is a fallacy remains to be seen.

Some of our cases here have apparently made very satisfactory recoveries, practically, without treatment.

Trusting that the above communication will receive space in the Journal, I am,

Very respectfully,

RALPH N. GREENE,

Chief Physician Florida Hospital for the Insane.

NEW YORK, Dec. 14, 1911.

Dr. Ralph N. Greene, care Florida Hospital for the Insane, Chattahooche, Fla.

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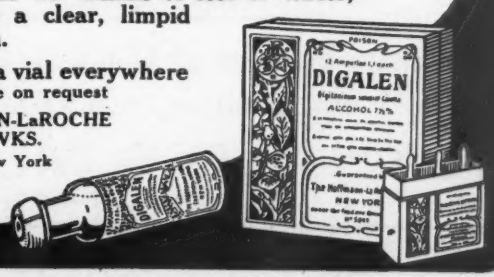

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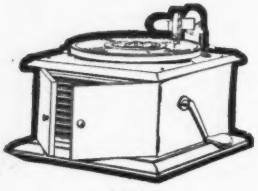

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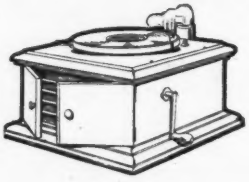

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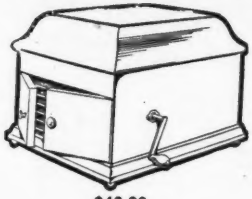

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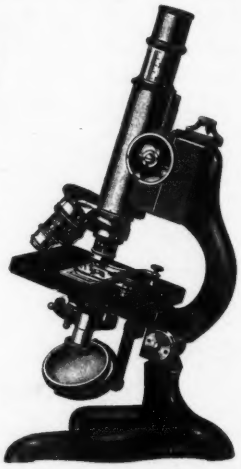

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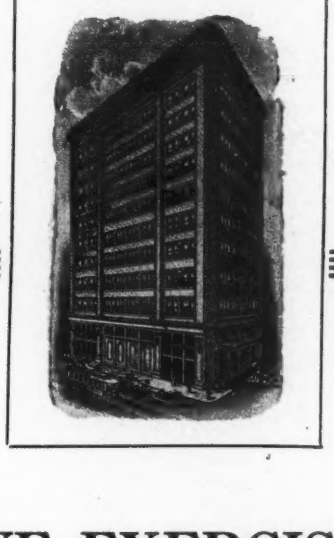

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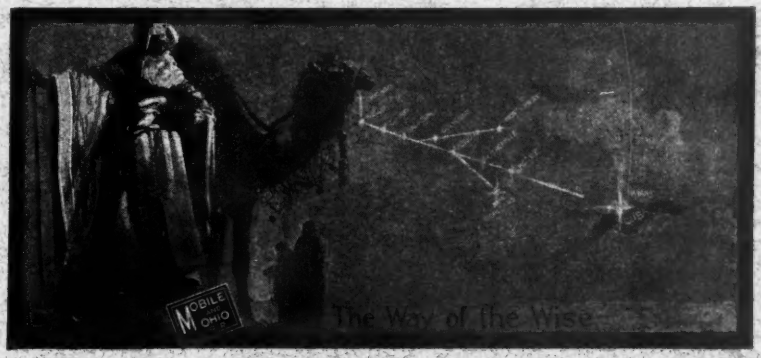

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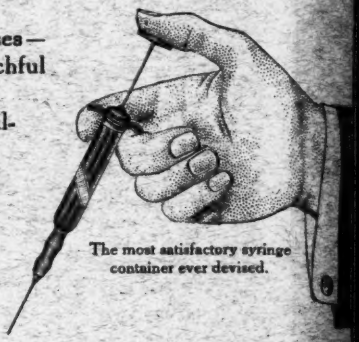

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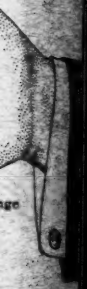

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